

BIG PROFITS • INDEPENDENCE • SECURITY

with the

IDEAL

LAWNMOWER SHARPENER



**MANUFACTURERS
OF**

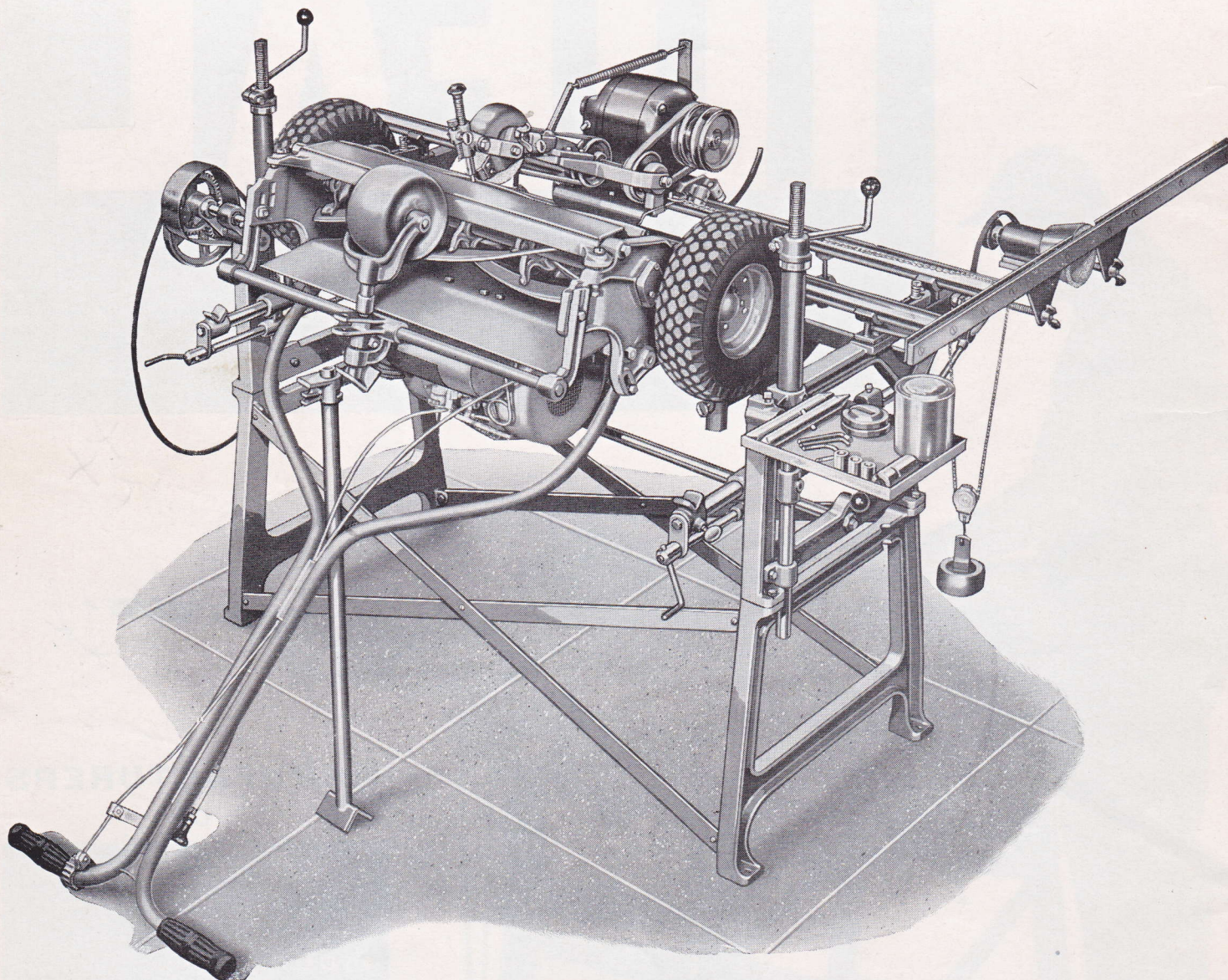
- **IDEAL and PEERLESS
LAWNMOWER
SHARPENER**
- **IDEAL BED KNIFE
GRINDERS
MODELS 50 and 77**
- **SIMPLEX PORTABLE
LAPPING MACHINE
MODEL 150**
- **SIMPLEX RECONDITIONER
MODEL 500 D**
- **PEERLESS CUTLERY
KNIFE SHARPENER
MODEL 45**

THE FATE-ROOT-HEATH CO., PLYMOUTH, OHIO, U S. A.

1956 EDITION

The **IDEAL** *Lawnmower Sharpener*

**Model 300, Complete with Motor,
Reconditioner and Bed Knife Grinder**



The Model 300 Ideal Lawnmower Sharpener, completely equipped with a $\frac{1}{8}$ H.P. Motor, a cup wheel type **Bed Knife** grinder, and a **Reconditioner**, is the most versatile lawnmower sharpener that has ever been built. It sharpens hand and power lawnmowers, garden tractor cutting units, and fairway units without removing engines, wheels, or handles. It sharpens dull mowers the only way they can be sharpened, by GRINDING the reel to fit the BED KNIFE. This is the IDEAL method! An exclusive feature found only on the IDEAL and the PEERLESS LAWNMOWER SHARPENERS.

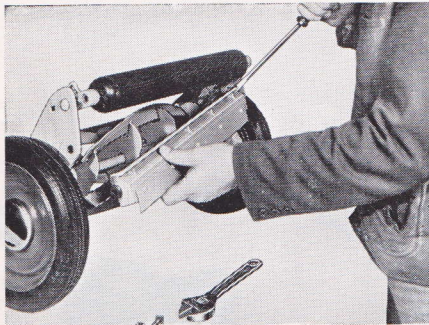
The Completely New Model 300 Ideal Sharpener will do the entire job of sharpening a mower. The cup-

wheel BED KNIFE grinder is the only kind that will sharpen all BED KNIVES, particularly the post war types. The traveling grinding wheel grinds the reel knives so that they will fit perfectly with the BED KNIFE. The Model 300 Ideal is also equipped with a Reconditioner for "lapping in" the silent type of mower, fairway units, and other high-speed cutting units. Truly a complete lawnmower shop, the Model 300 Ideal combines the three essential functions, bed knife grinding, reel grinding, and back-lapping, in one precision, easy-to-operate machine.

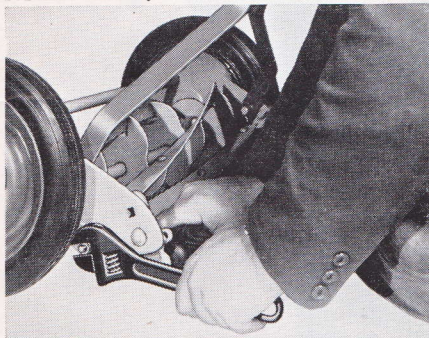
Dimensions: Length overall 65 inches, Width overall 62 inches, Height overall 53 inches. Shipping weight 400 lbs.

The IDEAL Lawnmower Sharpener

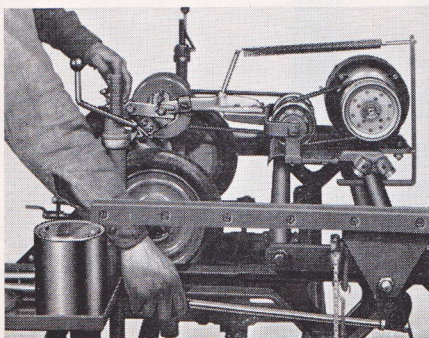
Ten IDEAL Steps to Precision-Grind Hand and Power Lawnmowers



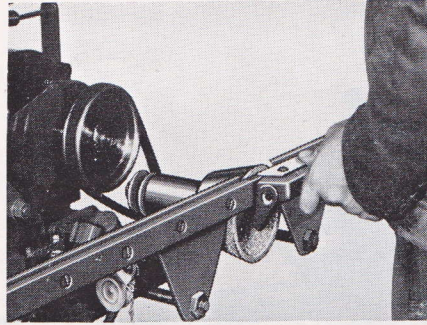
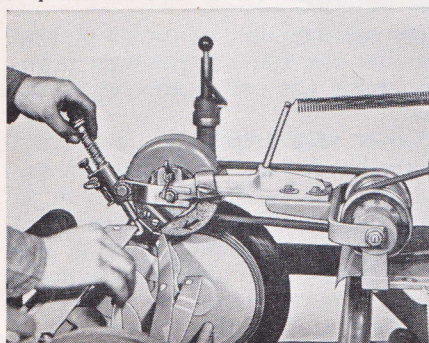
1. Remove Bed Knife from Mower—Remove nuts and bolts that hold the bed knife in the mower. Spread frame with screw driver removing complete bed knife assembly.



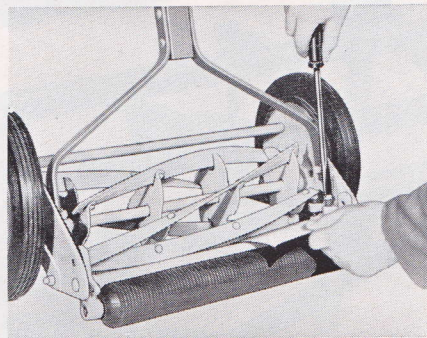
4. Replace Bed Knife in Mower—The bed knife is replaced in the same manner it was removed. With a 5-bladed reel, this bed knife does five times the work of any one reel blade.



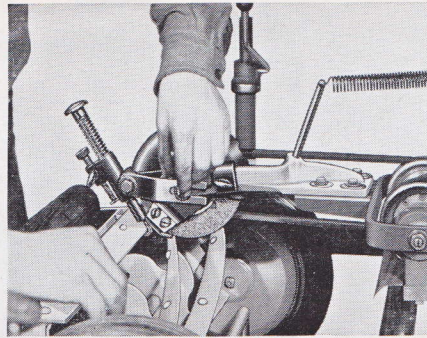
7. Move Grinding Head to Mower with One Lever—The entire grinding head carriage and rails are moved to the mower with one lever which can be operated from either end of the machine.



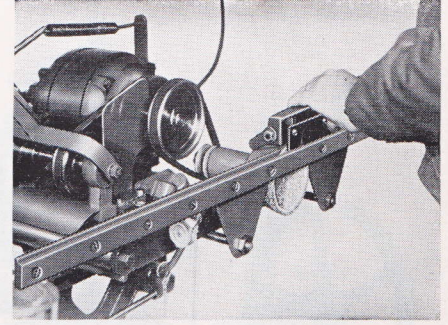
2. Grind Front Edge of Bed Knife—There are no brackets or centers to fuss with—simply slide the bed knife along the hardened steel ways. Two or three passes and you have a sharp edge.



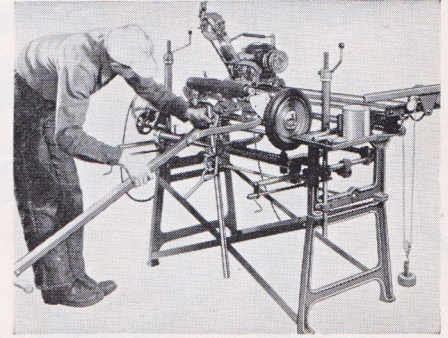
5. Setting the Mower for Reel Blade Grinding—The mower is now set up and adjusted the same as it would be to cut grass except that the reel blades do not touch or contact the bed knife.



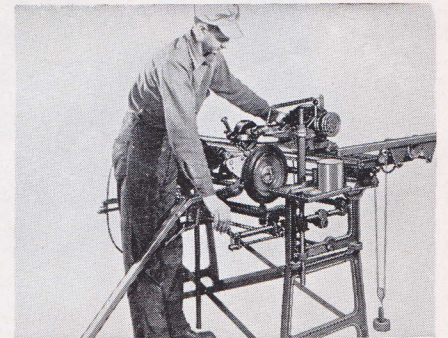
8. Set Finger for Proper Bevel—The guide finger which rotates around the grinding wheel is now set to grind the proper clearance or bevel on the reel blades.



3. Grind Face Edge of Bed Knife—Turn bed knife up and grind the face or top edge. The tapered cup grinding wheel permits plenty of clearance on this edge; continue passes until sharp edge is obtained.



6. Place Mower in the Ideal Inverted—With the mower upside down, it is placed on the V supports and the roller rest makes the third support. The mower thus has 3 point suspension.



9. Align Mower with the Grinding Head—Using the fine in-and-out adjustments, set the mower so the grinding wheel makes equal contact with the reel blades at both ends of the reel.

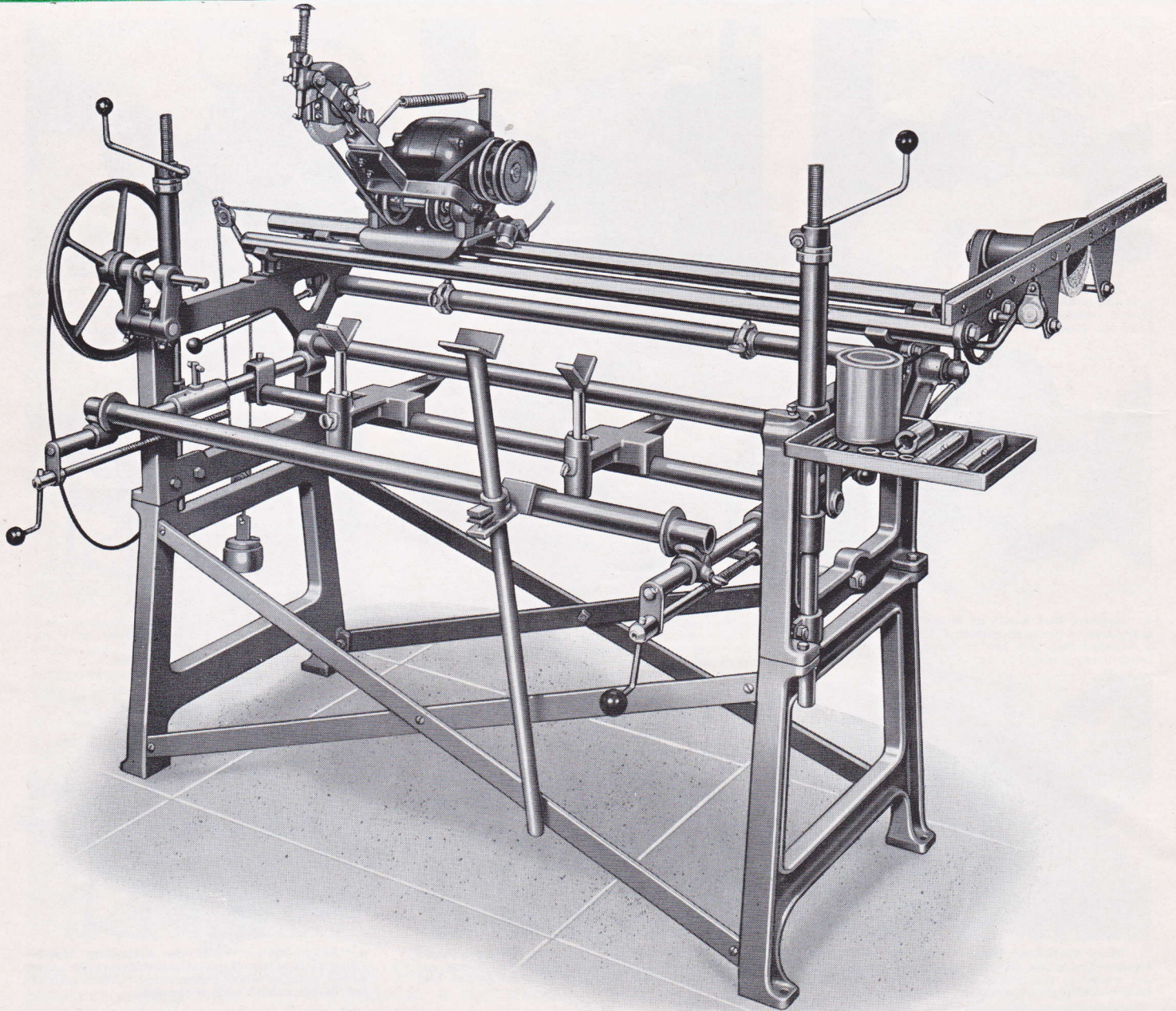
10. Number Blades and Grind—Number blades 1, 2, 3 etc. and begin to grind on blade number 1. Continue to grind blades in rotation until a keen sharp edge is obtained on each reel blade. On even the dullest mowers, three to four times around is sufficient to produce a precision job.

The grinding head is moved along by a gravity weight feed. This allows the grinding wheel to travel slower while grinding a high spot or blade and faster over a low spot or blade. All blades are thus ground alike in a shorter time and with fewer passes per blade as all grinding is done under the same even pressure.

When the mower has been removed from the Ideal and the final adjustment is made, you will find that each reel blade makes perfect cutting contact with the bed knife.

The IDEAL Lawnmower Sharpener

**The Only Lawnmower Sharpener with the
"Hook" Grinding Principle, Proved Since 1909**



The Model 300 Ideal Lawnmower Sharpener is ruggedly built to the highest standards of precision and quality. Note the sturdy cast iron frame, the threaded adjusting screws for both horizontal and vertical adjustment, the handy tool tray, the anti-friction bearings used throughout (even under the vertical adjusting screws), the gravity feed which can be used from either side, the Reconditioner and the Bed Knife Grinder, and all the other exclusive features.

Compare the Model 300 Ideal Sharpener to any other lawnmower sharpener at any price, compare its features and its ability to sharpen any hand or power

mower. Compare its convenience and its record of long service and remember that the Ideal is the only lawnmower sharpener that grinds the reel blades to fit the bed knife.

You want a lawnmower sharpener that will grind all mowers and all mower bed knives. You want a lawnmower sharpener that will grind the reel blades to fit the bed knife. You want a lawnmower sharpener that will back-lap or "Recondition" a mower after it has been ground. Only the Model 300 Ideal Lawnmower Sharpener will fill the bill in every respect, it is the only "complete" lawnmower sharpener on the market.

The IDEAL Lawnmower Sharpener

**Sharpens by Grinding on a Grinding Wheel—
Mowers Run Easier—Stay Sharp Longer**

General Description

The frame of the Model 300 Ideal Sharpener is made of heavy cast-iron. There is 45 inches of clearance between the side frames and the carriage has a travel of 44 inches.

The front of the sharpener is unobstructed so that power mowers can be sharpened without removing the engine. This is one of the many new features on the Model 300. Also hand and power mower handles need not be removed; in fact, the handles on some mowers are used for the third point of support. Adjustable carriage stops are provided at both ends to set the carriage travel for the width of the mower being sharpened. Rubber bumpers are used on these stops to absorb impact.

An entirely new roller support with a self-locking clamp action which can be released by thumb pressure, is used on the new Ideal. This makes for quick and positive adjustment throughout the entire length of the roller support pipe.

The Grinding Arm is supported by a traveling cast-iron carriage which moves on five sealed, precision ball bearings. These bearings travel on two $1\frac{1}{16}$ inch ground and polished shafts. The shafts or tracks are held in position by cast iron supports which slide on machined surfaces of the main frame.

The carriage, tracks and track supports, as a unit, have a quick adjustment of four inches by means of levers placed on either side of the machine. Either lever moves the complete assembly and quickly brings the grinding wheel up to the fine adjustment range for any mower.

The grinding arm rotates on ball bearings and on the same centers as the counter shaft which drives the grinding wheel. The counter shaft has separate precision ball bearings and both belts have the same tension for any position of the arm.

The grinding arm fork is an aluminum casting and carries a 5" x $\frac{5}{8}$ " face grinding wheel. The grinding wheel is mounted on sealed precision bearings and is provided with a strong steel guard which can be quickly removed.

The hook which contacts the bed knife has a carbide tip which is practically wear-proof. The finger point which positions the reel while grinding is also tipped with tungsten-carbide. This extremely hard metal will give years of service and is another one of the many new features to be found on the Model 300 Ideal Sharpener.

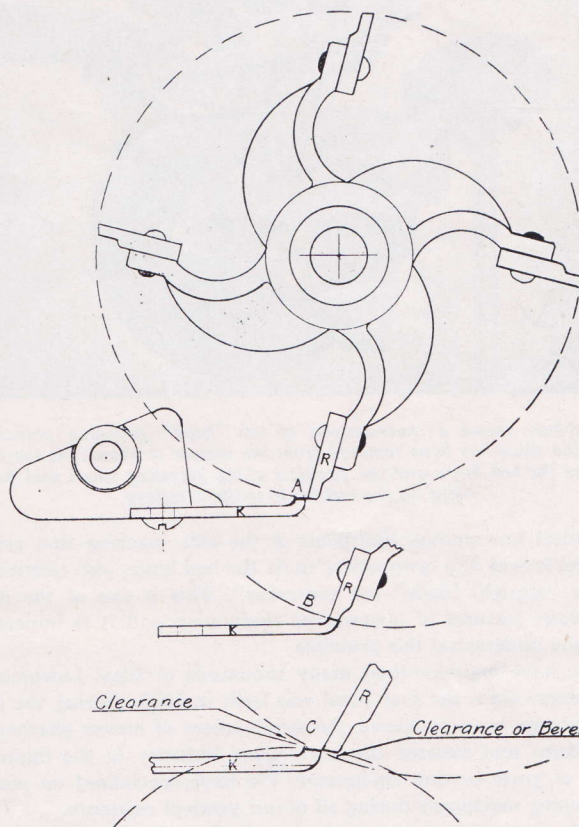
The bed knife grinder is bolted to the ends of the $1\frac{1}{16}$ " tracks at the right hand side of the machine. This bed knife grinder uses a tapered-cup grinding wheel which is driven by the traveling motor. Hardened steel-ways provide a straight-line guide for the bed knife while it is passed back and forth across the grinding wheel by hand. Both edges of any bed knife can be ground to any bevel. The bed knife grinding wheel can be hooked up to the motor in a matter of seconds by moving the carriage all the way to the right, tipping it back slightly, and slipping the belt over the pulley.

A Reconditioner is supplied as standard equipment. This is a device which bolts to the left hand frame of the Ideal and provides a means of "back lapping" a mower that has been ground. The reconditioner consists of a set of reduction gears that drive a coupler which connects directly to the reel shaft of a mower. The reel is revolved backwards and lapping compound is applied with a brush. The reconditioner is driven by a V-belt from the traveling motor and is quickly attached by moving the carriage all the way to the left. When not in use, the reconditioner can be left in place on the machine; it does not interfere with other operations.

A $\frac{1}{2}$ HP double-shaft, resilient mounted motor rides on the carriage to power the traveling grinding wheel. This motor also drives the bed knife grinding wheel and the reconditioner when moved into position at either end of the machine.

The grinding arm is moved along while grinding by a gravity weight feed which permits the speed to vary according to grinding conditions. This variable speed weight feed automatically main-

Why a Dull, Thick-Bladed Mower Must Be Ground on a Grinding Wheel



"A" shows the cutting edge of a new lawnmower as it comes from the factory. The reel knives "R" are ground while the entire reel spins on centers. There is no clearance or bevel ground in the reel knives by this method, all the clearance or bevel is ground in the bed knife "K". New mowers are usually "lapped in" so that they will run easily.

"B" shows the same edges after considerable wear or after attempting to sharpen the mower with lapping compound only. There is no clearance on either blade, the cutting edges are dull and there is wide contact of the blades. This makes mowers run hard and the grass is pinched off instead of sheared off.

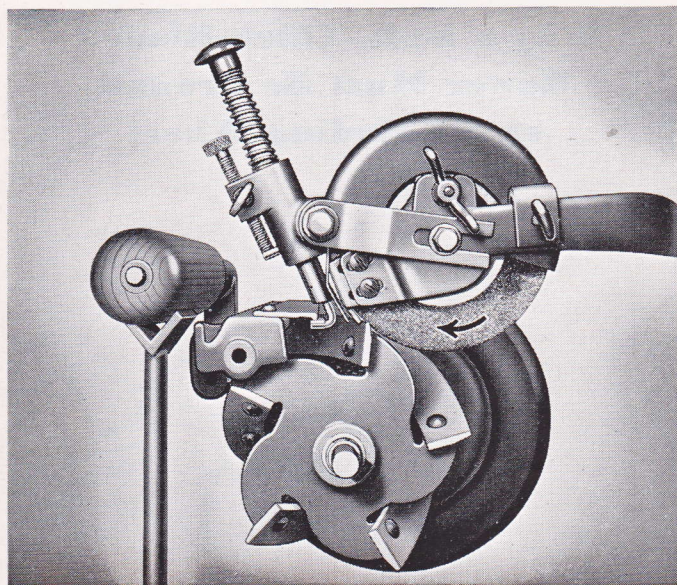
"C" shows the bed knife and reel knife after being ground on the Ideal Sharpener. There is clearance behind the sharp cutting edges of both knives, only one point of contact right at the cutting edge, the mower runs easily and shears the grass with a clean cut, and stays sharp longer.

tains an even pressure between the grinding wheel and the reel knives and moves the grinding wheel along at exactly the correct speed required for grinding each knife.

The Ideal Sharpener is finished in standard gray machine tool paint and each machine given a running test before shipping. Full instructions accompany each machine.

The IDEAL Lawnmower Sharpener

**Grinds the Reel Knives to Fit the Bed Knife
Even Tho the Bed Knife is Sprung or Bent**



This photo shows a cross-section of the "hook" grinding principle. The side plate has been removed from the mower to show how the hook engages the bed knife and the position of the grinding wheel and finger point on the reel blade while grinding.

The Ideal Lawnmower Sharpener is the only machine that grinds the reel knives of a lawnmower to fit the bed knife, also referred to as the "straight blade" or "cutterbar". This is one of the most important features of lawnmower sharpening and it is important that you understand this principle.

We have manufactured many thousands of Ideal Lawnmower Sharpeners since the first Ideal was built in 1902. During the past 50 years we have pioneered the development of mower sharpening equipment and assisted the lawnmower industry in the improvement of grass cutting equipment. We have specialized on mower sharpening machinery during all of our years of existence.

Our continuing success is due to the fact that we have always used the "Hook" method of grinding, a feature found exclusively on the Ideal Lawnmower Sharpener. This method of grinding was developed in 1909 and no other method has ever been found that will equal it. The "Hook" (see illustration above) follows the cutting edge of the bed knife and guides the grinding wheel across each reel knife. Thus each and every point on each reel knife is ground to fit exactly the corresponding point on the bed knife.

You will undoubtedly hear claims that it is only necessary to grind the bed knife to a straight line and grind the reel knives to a straight line, and that the result will be a perfect cutting contact between the reel knives and the bed knife. Such claims are doomed to bitter disappointment where lawnmowers are concerned. Bed knives may be ground straight, but they do not stay straight when they are clamped in a mower. That is why the reel knives must be ground to fit the bed knife.

A lawnmower bed knife is, of necessity, a rather long and relatively thin piece of metal. It may be a steel blade bolted to a cast iron "cast-back," or it may be of stamped steel construction. In either case it will bend or distort under pressure. The bed knife must be removed from the mower for sharpening. All pressure is

relieved and it assumes a natural shape while being ground. However, when this bed knife is replaced in the mower and the adjusting screws are tightened up to hold it in position for cutting grass, the pressure brought to bear will invariably distort or spring it from a true straight line. If each reel knife has been ground to a straight line, then the result will be an irregular cutting contact along the bed knife and, in many cases, no cutting contact in the center, as many bed knives are bowed out in the center. The only solution under such conditions is to "back lap" the reel with lapping compound until enough metal has been removed to allow cutting contact all the way across the bed knife. This method is time consuming and generally unsatisfactory to the customer as it wears out his mower in an unnecessarily short time.

THE IDEAL METHOD

The Ideal method of grinding is to replace the bed knife in the mower before the reel knives are ground. The bed knife is clamped in and the adjusting screws are tightened up just as they will be when cutting grass. Thus all the distortion is in the bed knife when the reel is being ground, and since the bed knife guides the grinding wheel by means of the "Hook", the reel knives are ground to fit perfectly, regardless of the shape it has assumed under pressure. To finish the job, the bed knife is adjusted to a cutting contact with the reel knives, with the bed knife subject to the same pressure and distortion which existed while the reel was being ground. The result is perfect, razor-sharp cutting at every point on every blade. No "back-lapping" is necessary and the mower is sharpened with a minimum of metal removed.

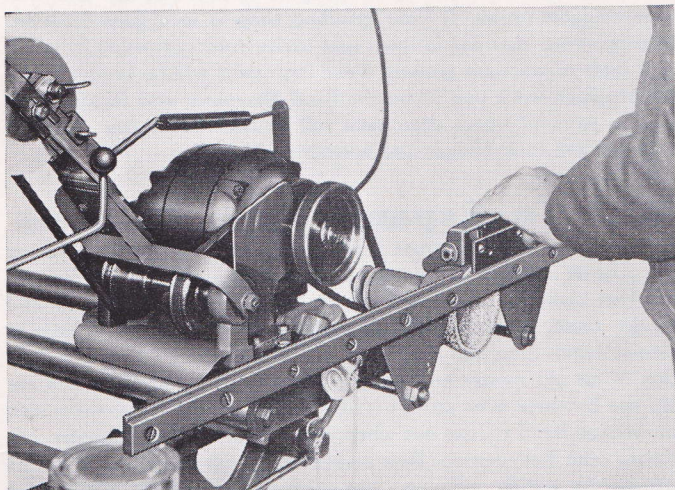
The Model 300 Ideal Lawnmower Sharpener is the result of research and development that started in 1946. We aimed to produce a sharpener that would sharpen the vast variety of reel-type mowers that have been introduced since 1946—a sharpener that would be easy to operate, quick to adjust, yet sturdy and accurate enough for precision grinding results. The Model 300 Ideal is that sharpener.

We have retained in the Model 300 our time-proven principle of hook grinding, a principle that was introduced in 1909 and has since been proven on many thousands of Ideal and Peerless Lawnmower Sharpeners the world over as the most accurate method of lawnmower sharpening ever devised. We placed the $\frac{1}{2}$ HP motor on a carriage that travels on five precision ball bearings across two $1\frac{1}{8}$ " ground and polished steel shafts. We put a jack shaft on the carriage so that the grinding arm could be used at the point most convenient for the mower. We installed a Reconditioner on the left side, a tapered-cup wheel Bed Knife Grinder on the right side, both operating from the motor that drives the traveling grinding wheel, both easily hooked up for operation, yet not in the way when you are grinding. The tracks that hold the carriage were placed on slides so that the grinding wheel can be brought into position quickly by means of a lever at either side of the machine.

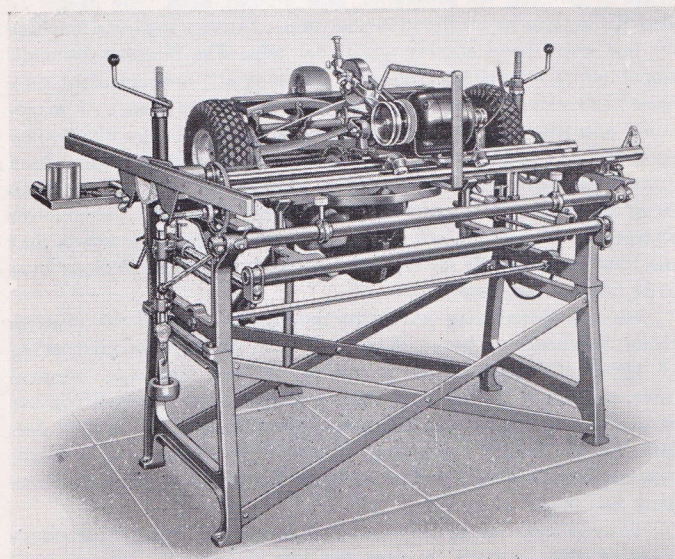
We made the Model 300 Ideal out of the best gray-iron castings and steel that we could obtain. We made it strong enough to support any mower, even a 30"-300 lb. fairway mower, without resorting to chain or rope hoists suspended from above. We made it easy to operate, fast to use, economical to own, yet we did not sacrifice one bit of the precision that has made the Ideal the world's most popular lawnmower sharpener. The Model 300 Ideal Lawnmower Sharpener is a complete lawnmower shop all in one machine. It is the finest Ideal Sharpener we have ever produced and a machine that will prove to be one of the wisest investments you ever made.

The IDEAL Lawnmower Sharpener

**The Greatest Lawnmower Sharpener of All Time
Now Backed By Half A Century of Experience**



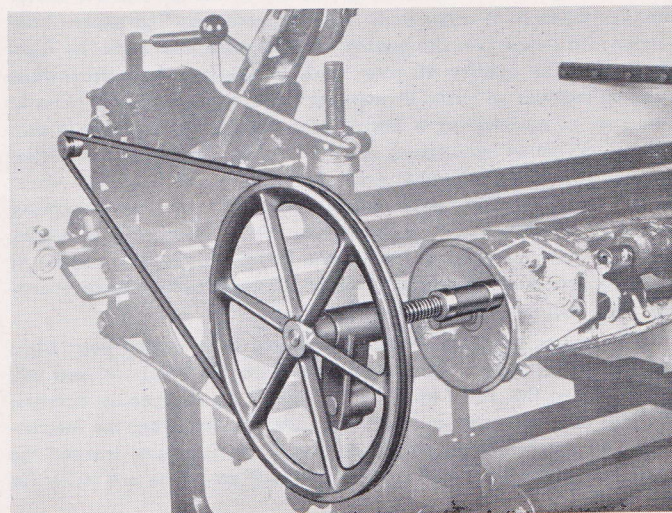
The Model 300 Ideal Sharpener includes the BED KNIFE GRINDER illustrated above as standard equipment. This bed knife grinder can easily be converted to the bench-type Model 77 Bed Knife Grinder if desired.



Pictured above is the new Model No. 300 Ideal Lawnmower Sharpener from the back side showing a 26 inch cutting width estate-type mower in position for grinding. Note the position of the grinding wheel and guide hook on the mower reel and bed knife. This is the same mower pictured on page 2.

The Bed Knife Grinder is shown in the left foreground. Visible also are the sealed ball-bearings which carry the grinding carriage, the rubber bumpers which limit the carriage travel according to the width of the mower being ground, and the rugged, cast-iron frame which is strong enough to carry the weight of any mower without the need of a chain or rope hoist.

The Model 300 Ideal Sharpener would not be the fast, easy-to-use machine that it is if it were not for the bed knife grinder which was designed especially for it. We know from experience that a tapered-cup grinding wheel is the only type that will grind to the extreme ends of many of the bed knives introduced in recent years. We have used this type of grinding wheel and we have mounted it on the Ideal in such a manner that it can be attached to the motor pulley for operation in a matter of seconds. At the same time it is out of the way when not in use. Note how the bed knife is held free-hand and passed along the hardened steel guide ways across the face of the grinding wheel. Any degree of bevel or clearance can be ground on either edge of the bed knife. For those of you who prefer this bed knife grinder on a separate bench, we offer the Model 77C Conversion Kit which contains the necessary parts for converting it to a Model 77 Bench Grinder. (The Model 77 Ideal Bench Grinder is illustrated on Page 7.) Remember, the same $\frac{1}{2}$ H.P. Motor operates the entire Model 300 Ideal Sharpener. This sharpener is complete; there is nothing extra to buy for it.



Due to the increased emphasis on the all steel "silent-type" lawnmowers, we have included the Ideal Reconditioner as standard equipment on the Model 300 Ideal Sharpener. Pictured above is the new gearless Reconditioner now supplied with the Ideal to provide a means of "lapping in" the reel and bed knife after grinding. This process is necessary to complete the sharpening job on silent mowers since they are silent only so long as there is no actual metal-to-metal contact between the reel and the bed knife. Mowers which are slightly dull with plenty of clearance left behind the cutting edges can be reconditioned satisfactorily without being reground.

This reconditioner can be operated in either direction merely by crossing the driving belt. Lapping compound is applied to the reel blades with a brush as the reel revolves backwards. Five sizes of driving couplers and a supply of Simplex Lapping Compound are provided with the reconditioner.

The **IDEAL** Lawnmower Sharpener

Your First Step in Building A Permanent, Profitable Business Sharpening Lawnmowers

The Ideal Lawnmower Sharpener has enabled thousands of men like yourself to become independent in their own business or to add substantially to their income through part time work. As this catalog goes to press, we are entering our 51st year building the Ideal Lawnmower Sharpener. We are extremely proud of our record and prouder still of the records of our thousands of customers who are using the Ideal Sharpener.

Many thousands of Ideal Sharpeners are now in use all over the United States. However the population of our country has increased by many millions since the first Ideal was built; thousands of new homes are being built every year, more and more parks, golf courses, divided highways, recreation areas are under construction, all of which call for more and more Ideal Lawnmower Sharpeners to maintain the mowers needed to take care of all this new grass. Regardless of where you live, on a farm, in a small town or a large city, and regardless of what your present occupation is, you can take advantage of the extra money available to men who can sharpen lawnmowers. Look around, every area of mowed grass that you see represents your potential market.

How To Get Started

The first step toward establishing yourself in the lawnmower sharpening business is to order your Ideal Lawnmower Sharpener. Your success will depend on the quality of your work and, with the Ideal Sharpener, the quality of your work is assured. Any worthwhile business requires an initial investment to get started and the remarkable part of establishing a lawnmower sharpening business is that only a very small investment is needed. You can set up your Ideal in your garage or basement and plug into any convenient power outlet. Remember, too, that your investment in the Ideal Sharpener will soon be repaid in full, sometimes within three or four weeks, and that your machine will serve you for many years to come just as it has thousands of others. Some of the very earliest Ideal Sharpeners are still in service today.

The second step is to become proficient in operating your Ideal Sharpener. Complete instructions come with the Ideal and you will quickly learn the Ten Ideal Steps (Page 3) for sharpening mowers. Practice on one or two old mowers, carefully following the instructions and you will have perfect results. Once you have learned the operation of the Ideal and understand each step, you are ready for business.

Your friends and neighbors will keep you busy at first and it just might be possible that you will get all the business you want from them. However, we have several business stimulators, the most important of which is a neat, attractive sign to denote your place of business. We have arranged with The Ideal Printers, Plymouth, Ohio, to supply tested advertising helps, printed with your name and address, at the lowest possible cost. We will supply newspaper mats of the Ideal if you choose to run ads in your local newspaper. It is entirely up to you how much business you want and how much money you want to make—the more you advertise, the more mowers you will get to sharpen.

If your place of business is not conveniently located to the public, arrange for a local gasoline station or hardware store to act as a pick-up and delivery point for the mowers. If you live in a large

city, you may want to have several pick-up and delivery points as your business grows. If your grinding shop is in a good location, then put your sign out in front and invite your customers in to see how their mowers are ground. Your customers will be impressed by the precision work you do on the Ideal Sharpener and this is where quality pays off—your customers will be back year after year and they will tell their friends and neighbors about you.

How To Expand Your Business

As your reputation grows in the lawnmower sharpening field, you can take on a line of hand and power mowers to sell. You will be in the best position to sell new mowers since you can sharpen and service them. Mowers taken as trade-ins can be rebuilt for sale as second hand. You can spot a prospective customer by the condition of his old mower and usually sell him a new mower when the old one becomes worn out. It is also a good idea to have one or two mowers on hand to loan out when your customers become impatient during your busy season. New mowers can frequently be sold in this manner by letting customers use them while their old mowers are in for sharpening.

Note the other machines we manufacture which you can utilize as your business grows. The Model 50 Ideal Bed Knife Grinder will speed your output of sharpening jobs and enable you to handle other types of grinding for profitable, year around work. The Model 77 Bed Knife Grinder is offered if you want to have a separate machine for bed knives and employ additional help. The Simplex Reconditioner offers a separate means of "lapping-in" mowers after they have been ground. (Note: Lapping-in is offered by some as a sharpening operation for dull mowers; it is not effective as a sharpening process, but merely as a finishing process on mowers that have been ground on a grinding wheel.) All of the functions of the machines listed above are incorporated in the Model 300 Ideal Lawnmower Sharpener; these machines are offered when business demands that the Ideal be used only for reel grinding and the other functions have to be handled separately.

We are introducing with this catalog the Model 40 Peerless Knife Sharpener, a heavy-duty, precision machine for sharpening all types of kitchen cutlery, scissors, shears, cleavers, surgical tools, and other curved edge cutting implements. Through the use of special grinding wheels, this machine will enable you to do a perfect job of "Hollow" grinding for extra profits the year around. You can also do ice skate sharpening on the Model 50 for wintertime work and profit.

To keep busy during the winter, encourage your regular customers to bring their mowers in after the last mowing for storage until spring. During the winter you can sharpen them at your leisure and have them all ready for the spring rush. Also you will be free to handle all the new work that will come your way as soon as the grass starts to grow.

We are equipped to supply you with repair parts that you may need from time to time for the mowers you sharpen. A Mower Parts catalog is sent with every Ideal as well as a full kit of advertising samples. New items are being added all the time and we are constantly striving to improve our service. Remember, the first step towards a business like this for yourself is to fill out the order blank for an Ideal Lawnmower Sharpener and send it in today.

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The **PEERLESS** Mower Sharpener

Is Equipped with Attachment Bar for Grinding Both the Face and the Edge on Bed Knives

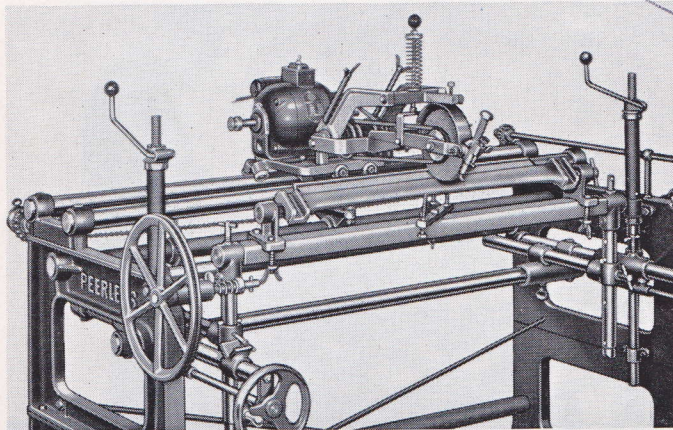


Fig. 4. Top face of bed knife being ground on bed knife grinding bar. Note method of support used to hold bed knife.

New Bed Knife Grinding Bar

The new Model 600 Peerless Mower Sharpener grinds mower blades to a keen sharp edge with just the right tolerance or bevel behind the cutting edges. Any reel-type mower sharpened on the Peerless will cut perfectly, run smoother, and require less power and effort to operate. Mowers will actually cut better-than-new because the Peerless grinds clearance on all the blades instead of just on the bed knife alone.

To properly sharpen a mower, the bed knife must first be removed and ground. The bed knife is placed on the bed knife grinding bar (Fig. 4) and the front edge is ground first. The bed knife grinding bar is then rotated to bring the top face of the bed knife into position as shown in Fig. 4. Clearance is ground behind the cutting edge of the top face and all nicks are ground out.

If the hook grinding method is to be used for grinding the reel, the bed knife is then replaced in the mower and set as close to the reel as possible without actually touching the reel blades. The bed knife should be clamped in tightly with adjusting screw pressure about the same as it would be when the mower is cutting grass. Any distortion or springing of the bed knife caused by the adjusting screw pressure is then compensated for by the hook grinding method and the reel will be ground to fit the bed knife. If the straight-line grinding method is to be used, the bed knife is left out of the mower while the reel is being ground.

The mower is placed in the Peerless in an inverted position on the adjustable mower support frame. Engines, wheels, or handles need not be removed from power mowers. Heavy screw-type adjustments are used on the mower support frame to allow easy adjustment of even the heaviest mowers. The grinding wheel is then set to the reel blades and, using the adjustable guide finger, the proper amount of bevel or clearance is set to be ground on each blade. For hook grinding the grinding wheel is held up by a spring with the thumb-screw backed away as shown in Fig. 5. While grinding, the grinding wheel is held down against each reel blade by the hook traveling

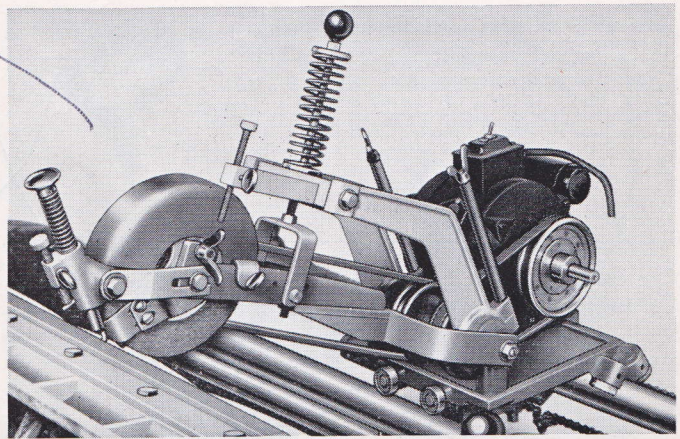


Fig. 5. This is the grinding head of the Peerless with the hook engaged under the bed knife and the grinding wheel in contact with a reel blade.

New Grinding Carriage

along under the bed knife. The hook itself is on the end of the feed finger and not only guides the grinding wheel along the reel blades but controls the amount of cut as well. The hook method grinds each point of each reel blade to fit the corresponding point on the bed knife.

For straight line grinding the mower is placed in the Peerless in the same manner except that the bed knife need not be replaced in the mower. The same adjustments are made except that the hook is not used and the long feedscrew (See Fig. 5) is screwed down until it contacts the grinding head and holds it against the reel blades. Straight line grinding can also be done with the reel removed as in Fig. 3. This method is satisfactory for large power mowers and fairway units since their construction is heavy enough to take the pressure of adjusting screws without distorting the bed knife. For mowers of lighter construction, only the hook grinding method will assure perfect results. Only the Peerless Mower Sharpener offers both methods of grinding as well as a reconditioner for finishing mowers with lapping compound.

Gravity Feed or Hand Crank

The grinding wheel and carriage can be moved along while grinding either by a gravity weight feed or by hand cranking. Either method will cause the grinding wheel to move in either direction by means of a roller chain attached to the grinding carriage at the back of the machine. In Fig. 2 the weight feed is moving the grinding wheel along while in Fig. 3 the operator is using the hand crank. The gravity weight feed is more sensitive since it will cause the grinding wheel to travel across faster over low spots and slow down on high spots. When the reel is ground down evenly, the grinding wheel will travel uniformly all the way across with the weight feed. The hand crank system is preferable for straight line reel and bed knife grinding.

The PEERLESS Mower Sharpener

Equipped with Reconditioner, is the only Complete Heavy-Duty Mower Sharpener Built

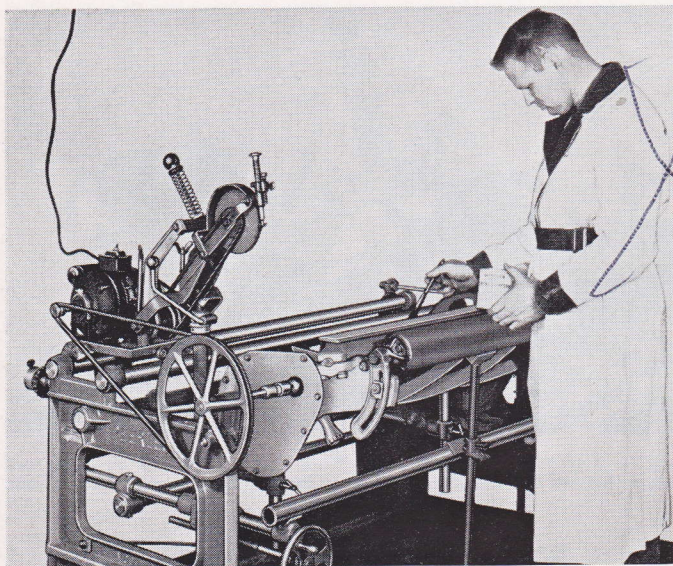


Fig. 6. The Reconditioner in operation lapping-in the fairway mower which is being ground in Fig. 2.

Reconditioner

The Peerless includes a Reconditioner as standard equipment as shown in Fig. 6 above. The reconditioner is driven by a belt from the grinding wheel motor and will operate in either direction simply by crossing the belt. This provides a means of finishing a mower that has been ground by the "back-lapping" process. The bed knife is adjusted to cutting contact with the reel and then, with the reconditioner turning the reel backwards, lapping compound is applied to the reel blades with a brush and the reel and bed knife are "lapped-in". This method of finishing is desirable on some types of mowers, particularly the heavy-duty fairway and power mowers, greensmowers, and the "silent-type" mower. Five sizes of driving couplers and a supply of Simplex Lapping Compound are supplied with the reconditioner.

The Peerless is Complete

The Model 600 Peerless comes complete including all attachments, offset V-rests, centers, and other accessories needed for various mowers. The Peerless itself will support any mower, no external

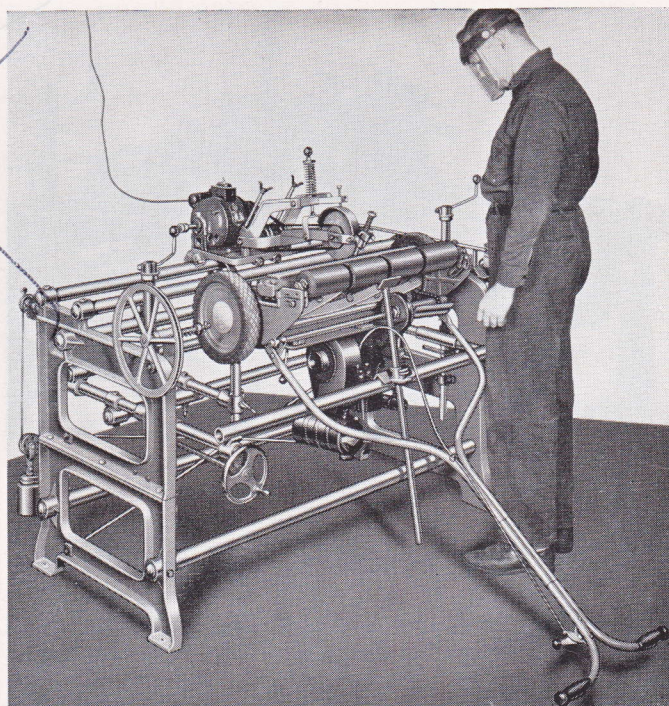


Fig. 7. A 24-inch home type power mower being ground by the hook method. Note that mower is not disassembled, motor, handle, everything is in place.

hoist or chain is needed to partially support any mower. The Peerless will completely grind and recondition any reel-type hand or power mower, fairway mower, greensmower, wing mower, or garden tractor mower.

Workmanship and Finish

The Peerless Mower Sharpener is constructed of gray iron castings and machined steel parts manufactured in our own shops by skilled workmen. Jigs, fixtures, and templates are used in machining these parts assuring interchangeability. The Peerless is finished in standard gray machine tool paint.

DIMENSIONS AND WEIGHTS

Length between frames.....	52"	Width overall.....	36"
Length overall.....	67"	Height overall.....	50"
Grinding wheel travel.....	39"	Shipping Weight.....	700 lbs.

Construction Features of the PEERLESS Mower Sharpener

The $\frac{1}{2}$ H.P. 115/230 volt, 60 cycle ball-bearing motor travels on a carriage across two $1\frac{1}{16}$ " ground and polished hi-carbon steel shafts. The carriage rolls on six sealed ball-bearings and straight line accuracy is further assured by screw supports at the center of the track shafts. The grinding head is adjustable up and down to the most convenient grinding position and is locked at any point by two wing nuts. The reconditioner remains in place on the left frame, ready for use at any time but out of the way when not needed. The bed knife grinding bar is quickly placed in the Peerless between center

supports and rotates to permit grinding both top face and front edge. (The use of the Model 50 Ideal Bed Knife Grinder makes the bed knife grinding bar unnecessary.) All parts are of the highest quality and the Peerless is guaranteed for one year against defective material or workmanship.

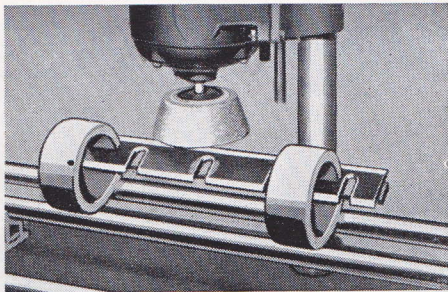
No. 600 Peerless Mower Sharpener complete with $\frac{1}{2}$ H.P. Motor, Bed Knife Grinding Bar, Reconditioner and all attachments and accessories listed (See Price List).

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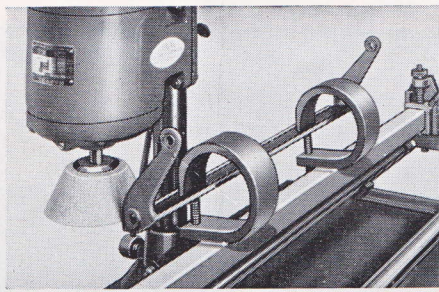
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The **IDEAL** Bed Knife Grinder

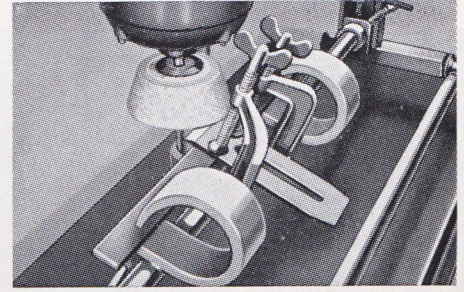
**For Grinding Lawnmower Bed Knives, Skates,
Planer Knives, Hatchets, Chisels, Etc.**



A jointer knife in position for grinding on the Model 50.



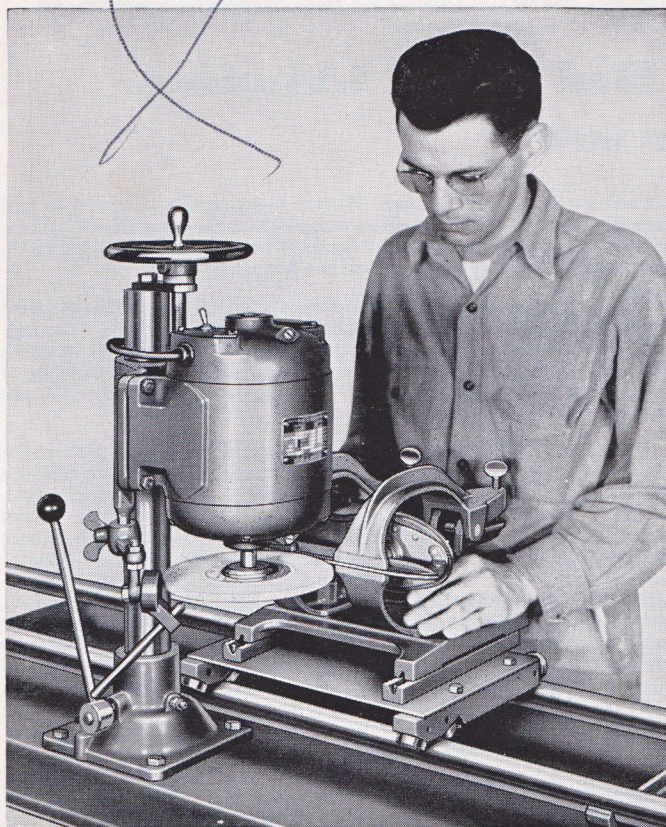
Long-eared one-piece bed knives are easy on the Model 50.



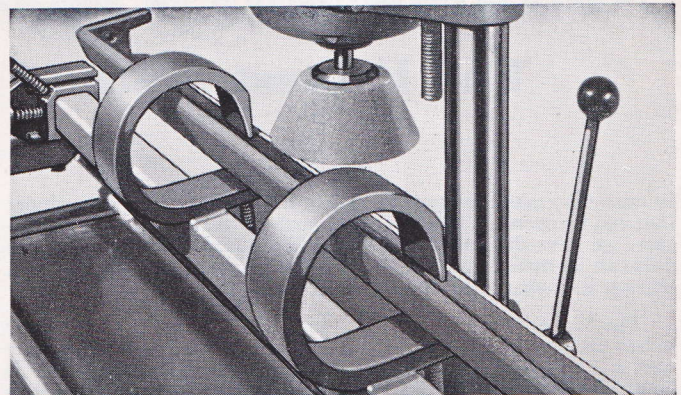
Planer blades, chisels, practically any straight edge tool can be sharpened.

You will find the Model 50 Ideal Bed Knife Grinder to be the most versatile and useful grinder in your shop. It probably has many applications that we have not discovered yet, as new uses for this machine turn up every day. With the fine screw-feed on the grinding wheel and the precision work carriage, you can turn out straight-edge grinding work that cannot be equalled by free-hand grinding. You will be busy the year around with this machine doing work that you never dreamed of doing before. There has never been a Bed Knife grinder to equal the Model 50 either in price, precision or speed.

Specifications: ½ H.P. Motor, 115-230 Volt, 60 Cycle A.C., Single Phase R.I. type, high-speed 3450 R.P.M., Ball-bearing equipped. (This motor is the heart of the Model 50 and to insure the precision of this grinder, it is not sold less motor) 5 inch tapered-cup premium grinding wheel, 1 1/8" steel tracks that can be revolved to provide new surfaces as needed. Carriage is equipped with New Departure Sealed Ball Bearings. Overall length 80 inches width 20 inches. Shipping weight complete 250 lbs.



This shows how ice skates can be quickly and accurately sharpened on the Model 50. The radius wheel dresser is shown at the left of the grinding wheel.



The top face of a bed knife is ground in this position. To grind the front edge, the clamping bar is rotated back to the position shown on the opposite page.

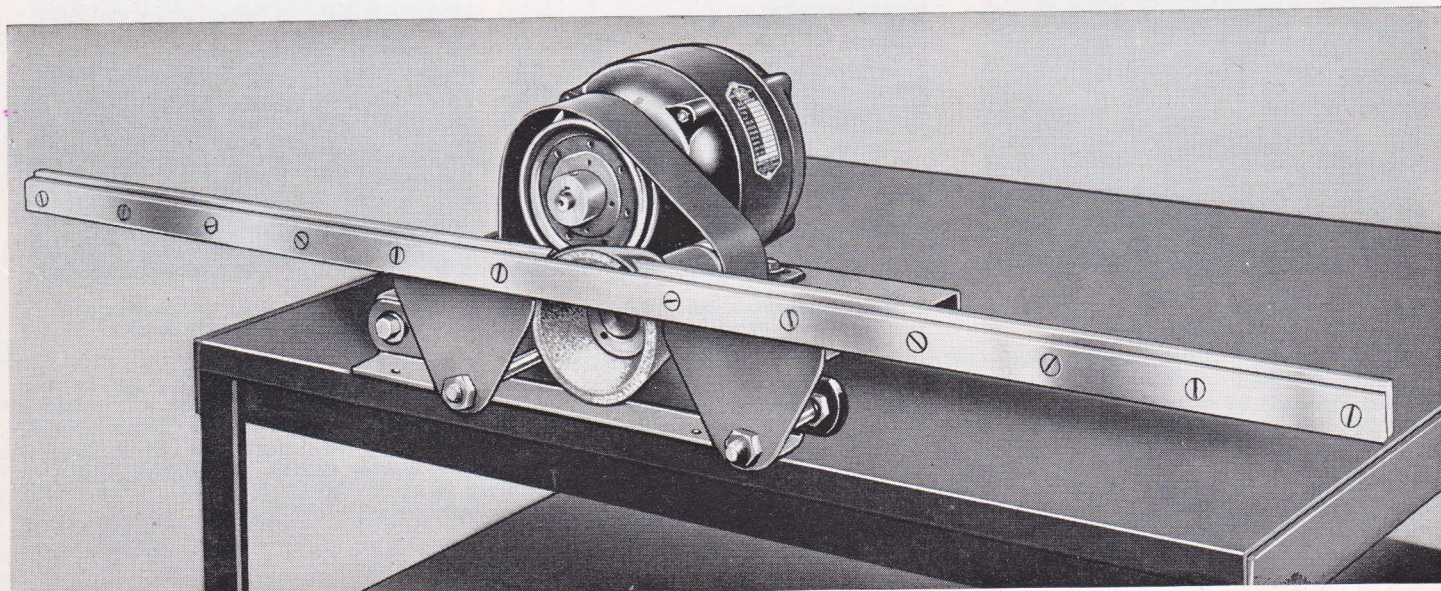
The No. 50 Ice Skate Grinding Attachment: At slight extra cost, you can equip your Model 50 for ice skate grinding for extra profits all winter long. You simply change grinding wheels, switch carriages and you are ready to do ice skates. The skate blade is accurately hollow-ground to any radius desired by dressing the grinding wheel to the proper radius with the diamond dresser provided. This dresser pivots on a ball bearing and hangs out of the way when not in use. The contour of the skate runner is followed by moving the upper carriage in and out while passing the runner past the grinding wheel. Grinding marks run parallel with the runner and no honing is needed to finish the job.

Specifications: Cast iron clamps hold skate runner in position. Base is of steel with "V" tracks milled from cast iron. Four steel balls allow in and out movement of upper carriage. Shipping weight 50 lbs.

The **IDEAL** Bench Grinder

Model 77

A Fast, Inexpensive Bed Knife Bench Grinder



The Model 77 Bed Knife Bench Grinder is the "Ideal" inexpensive answer for those who want a separate bed knife grinder at a minimum cost.

The Fastest Method of Bed Knife Grinding Ever Devised

In answer to many requests for a fast, inexpensive bed knife grinder that can be operated independently of the Ideal Lawnmower Sharpener, we have developed the Model 77 Ideal Bench Grinder. This unit can be mounted anywhere on your bench or on wall brackets, leaving your sharpener free for reel grinding only.

The Model 77 Bench Grinder employs the "free-hand" principle of bed knife grinding. Hardened machined ways guide the bed knife past a high-speed tapered cup grinding wheel. The bed knife is hand-held and moved along the ways much the same as a board is

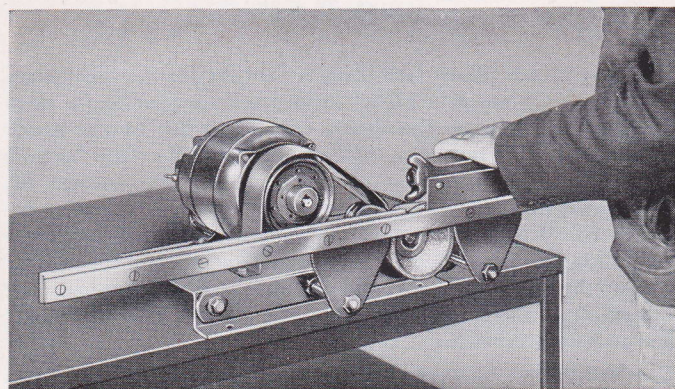
passed across a wood jointer. With a few practice passes, you will become so adept at this method of bed knife grinding that it will be almost impossible to tell the difference between a knife ground on the Model 77 and one ground on the Model 50.

Both edges of any bed knife can be ground to any degree of bevel or clearance desired. This is possible only when a tapered cup grinding wheel is used. To sharpen a bed knife you merely pass it across the face of the grinding wheel as many times as needed to bring it to a sharp edge. Usually two or three passes across each edge are sufficient.

The Model 77 Bench Grinder is powered by a $\frac{1}{2}$ HP motor driving the grinding wheel at 3900 RPM. The Bed Knife Grinder of the Model 300 Ideal Sharpener can be easily converted to the Model 77 Bench Grinder with a few additional parts, or the Model 77 can be purchased complete as illustrated. If you order the Model 300 Ideal Sharpener complete, you can convert the bed knife grinder at any time to the Model 77 Bench Grinder at a cost equivalent to purchasing the Model 300 Ideal without the bed knife grinder plus the Model 77 Ideal Bench Grinder. We recommend to those of you who may be starting out in the lawnmower sharpening business that you begin with the Model 300 Ideal Sharpener complete. You may find that the built-in bed knife grinder will be sufficient to take care of your needs. However, if your business demands it, you can convert to the Model 77 Bench Grinder with only the cost of a motor, base, and belt guard.

Model 77 Ideal Bench Grinder complete with motor, Shipping Weight 60 lbs.

Model 77C Conversion Kit for changing Model 300 Bed Knife Grinder to Model 77 Bench Grinder (Motor, guard, and base) Shipping Weight 40 lbs.

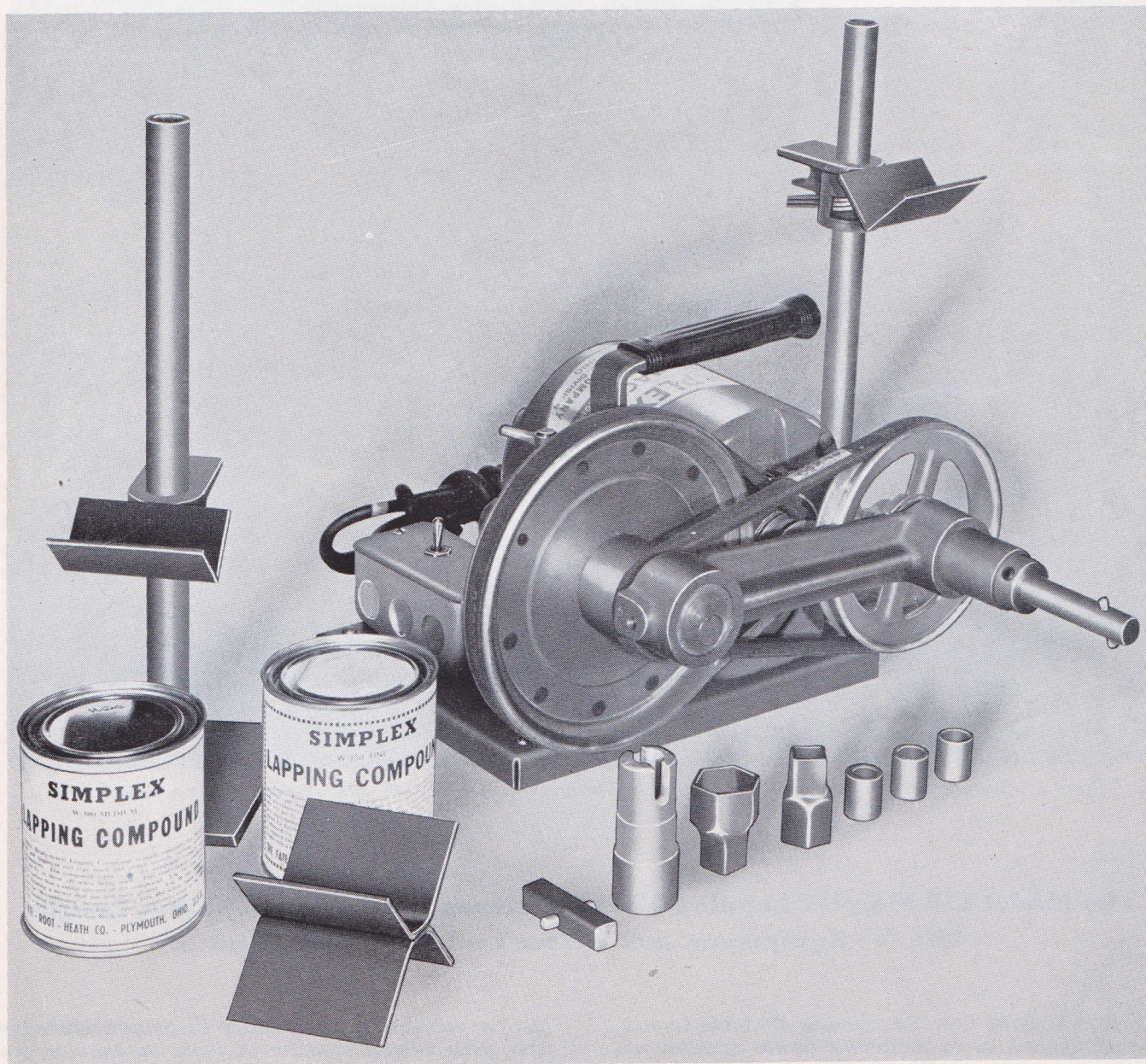


This illustration shows how the top face of a bed knife is ground. Note the ample clearance afforded by the tapered-cup grinding wheel.

The **SIMPLEX** *Lapping Machine*

Model 150

For Reconditioning any Reel-Type Mower



The Model 150 Simplex Lapping Machine complete with accessories.

The Model 150 Simplex Portable Lapping Machine is designed to meet the needs of lawnmower shops, golf courses, parks, cemeteries, colleges, hospitals, industrial concerns and others for a compact, portable power unit capable of "Reconditioning" or lapping-in any reel type mower quickly and with a minimum of effort.

We have used the word "Reconditioning" to cover lapping-in of a mower between grinding jobs. Reconditioning is a quick and efficient method of keeping mowers

in top cutting condition as long as there is sufficient clearance on the bed knife and the reel blades. When the clearance is completely gone, or the blades become badly nicked, then reconditioning is no longer possible and only a complete grinding job will restore the cutting edges with proper clearance. However a mower that is ground at the start of a season, especially heavy-duty mowers, can be reconditioned several times before another grinding job is needed.

The **SIMPLEX** *Lapping Machine*

**Portable Power Ready To Go Anywhere
Electric Power is Available**

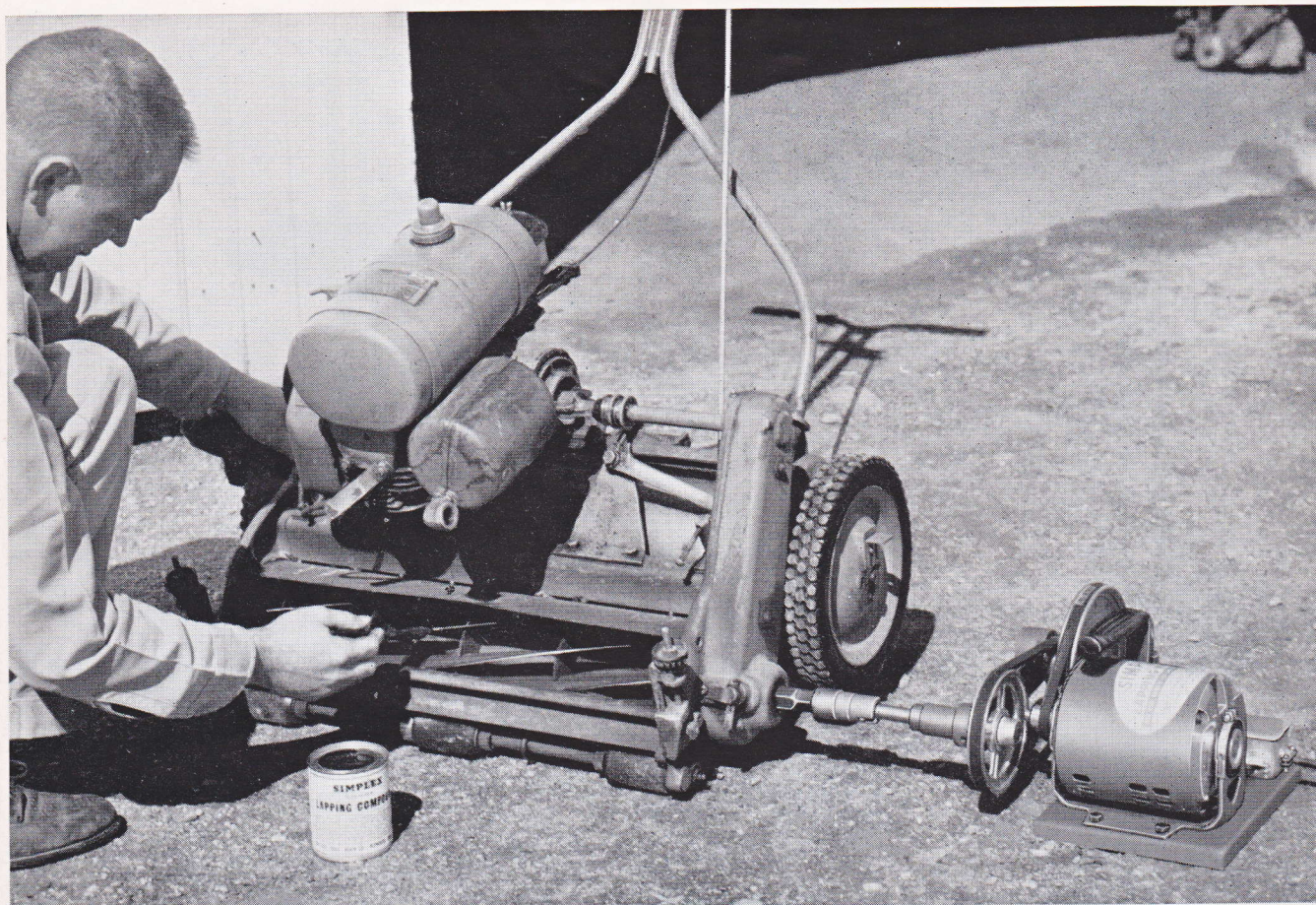


Figure 1. Greensmowers can be lapped-in quickly on the floor or outside the shop. Coupling is made directly to the reel shaft.

The Model 150 Simplex Lapping Machine Means Extra Mowing Time, Longer Life for Equipment, and Better Looking Grass Areas.

Figure 1 shows how the Simplex Portable Lapping Machine is used to recondition a power greensmower. Coupling is made directly to the reel shaft in most cases. Where no provision is made to couple directly to the reel, it is usually possible to mount a V-belt pulley or a sprocket on the driving shaft of the Simplex thereby powering the reel by means of its regular drive belt or roller chain.

This method of keeping mowers in top cutting condition during the busy season is especially valuable to golf courses, parks and other places where large grass areas keep mowers in operation constantly. It can be

just as valuable to lawnmower shops and individuals who grind a large number of power mowers or other heavy-duty mowers. Suppose a power lawn mower that you have recently ground is knocked out of adjustment or becomes slightly dull. There is no need to haul the mower to your shop, you take the Simplex to the mower, plug in to the nearest power outlet, and quickly recondition the mower to perfect cutting condition. An individual with a Simplex Portable Lapping Machine could go from door to door reconditioning mowers on the spot. Mowers that need grinding would, of course, have to be taken to a lawnmower shop for grinding on an Ideal or a Peerless Mower Sharpener.

The **SIMPLEX** Lapping Machine

Keep Mowers in Sharp Cutting Condition Between Grinding Jobs

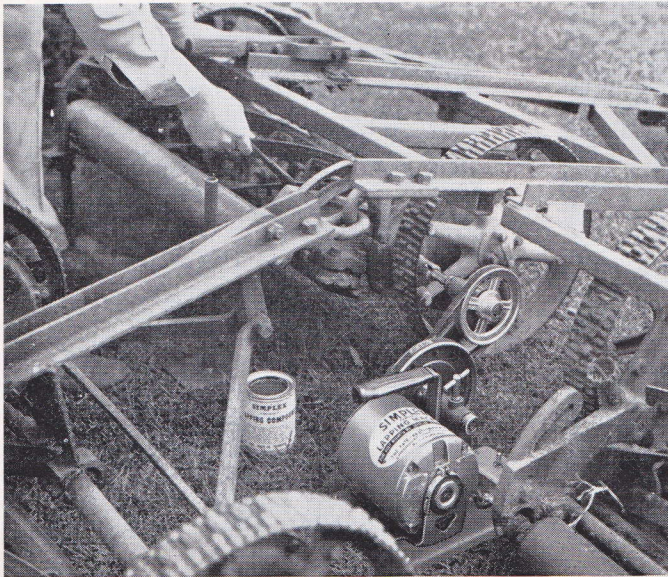


Figure 2. The Simplex being used to recondition a gang of fairway mowers on the spot. No mower need be removed from the gang for this purpose.

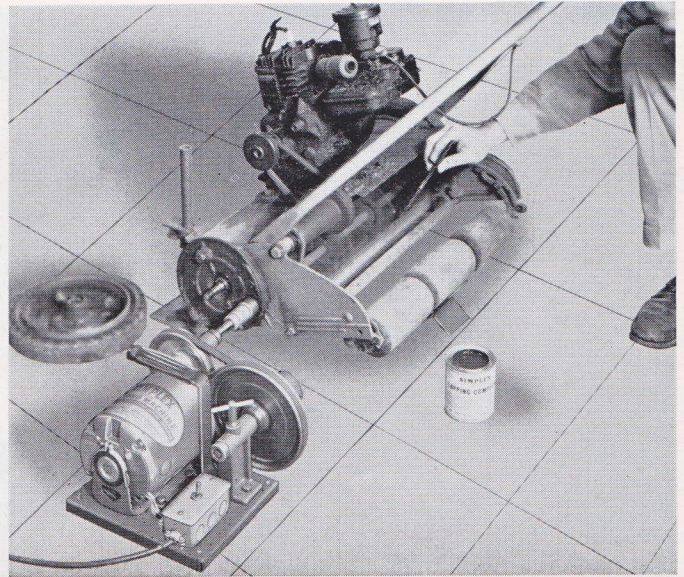


Figure 3. The average power mower is reconditioned in this manner. Simplex lapping compound is applied to the reel as it revolves backwards.

A Basic Maintenance Machine Needed by every Golf Course, Cemetery, Park, College, Service Shop, and everywhere that large areas of grass are kept mowed.

Figure 2 illustrates how the compact Model 150 Simplex Lapping Machine is used by golf courses, parks, and others to keep heavy-duty fairway mowers in peak cutting condition between grinding jobs. The compact design enables the Simplex to lap-in a full set of gang mowers without removing or unhitching any of them from the frame. This can be done in a very short time. The Simplex can be coupled to either end of the reel, as a built-in reversing switch makes it possible to run the motor in either direction. The reel can always be turned in the proper direction.

Figure 3 shows an average 20" home-type power mower being reconditioned. The roller is elevated by means of the roller rest supplied with the Simplex. The two adjustable jacks support the front so that a wheel can be removed and coupling made to the reel shaft.

The special Simplex Lapping Compound, available in fine, medium, and coarse grits, is applied with a brush to the reel blades as they revolve backwards. This compound is then wiped off by the bed knife and its cutting action causes each reel blade to be "lapped-in" to perfect cutting contact with the bed knife. The reason for elevating the roller is to tip the bed knife forward. This causes the compound to flow back into the contact points between the reel blades and the bed knife thereby being reused. In Figure 2 the roller of the fairway mower is elevated by means of the two support jacks for this same purpose. This method of reusing the compound (which is in a semi-liquid state) saves on the compound needed and provides faster results.

GENERAL DESCRIPTION

The Model 150 Simplex Portable Lapping Machine is powered with a $\frac{1}{4}$ H.P. motor. The motor is wired with a reversing switch which enables it to be operated in either direction. Motor shaft speed is 1725 R. P. M. which is reduced by means of V-belts to a drive shaft for lapping-in speed of 145 R.P.M.

The motor is mounted on a base made of twelve gauge sheet steel. The base measures 8" x 10", the completely assembled machine measures 13" x 16 $\frac{1}{2}$ " x 9" high. The drive shaft is adjustable for coupling to a reel shaft from 2 $\frac{1}{2}$ " to 11 $\frac{1}{4}$ " above floor level. The drive shaft can be rotated between these extremes and locked in any intermediate position by means of a "T" handle. The complete unit without the accessories weighs 30 pounds and is balanced around a convenient carrying handle.

The Simplex Lapping Machine uses no gears, speed reduction is made by means of two V-belts and pulleys. The motor provides ample power to recondition any reel-type mower and makes possible a machine almost 20 pounds lighter than previous models. The V-belts are adjustable for proper tension, one by moving the motor on its base, the other by means of a cam arrangement which can be seen in the first illustration. To adjust this belt, the set screw in the cast iron arm is loosened so that the arm can be rotated on the cam until the belt has the proper tension, then the set screw is tightened to hold this adjustment.

The **SIMPLEX** Lapping Machine

Portable Power For Many Purposes
Drive Shaft Runs Either Direction

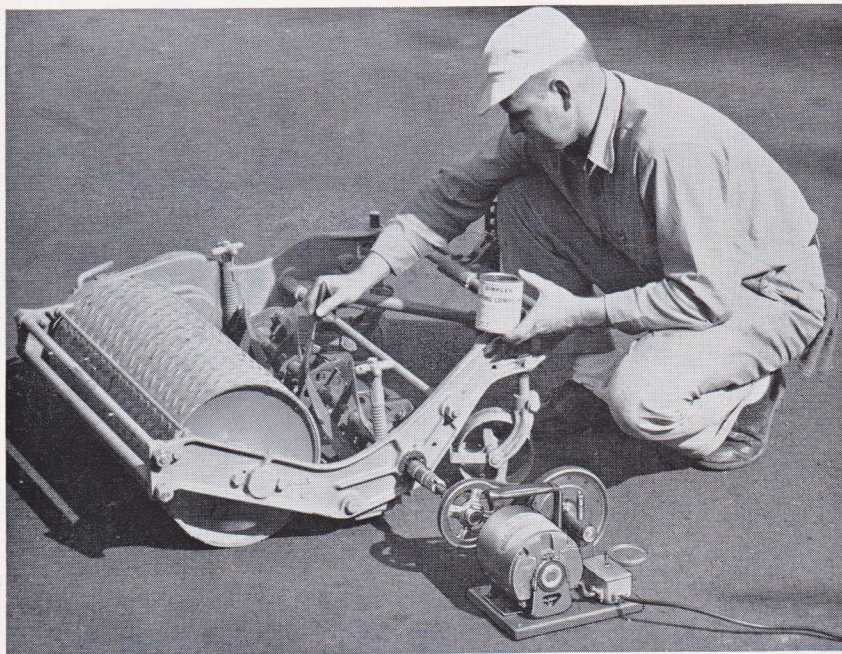


Figure 4. Most fairway mowers have provision made for coupling to the reel shaft for back-lapping. If hex sockets provided with the Simplex do not fit, standard tool box sockets can be used.



Figure 5. The Simplex as seen from above coupled to the power mower shown in Figure 3. Note carrying handle.

The Model 150 Simplex Lapping Machine is also used on the Model 500D Simplex Reconditioner

Included with the Model 150 Simplex Portable Lapping Machine are two adjustable jacks to support mowers off the ground or floor for reconditioning. See first photo to identify these accessories. These jacks are quickly set to any height by releasing the locking trigger with the finger and raising or lowering the assembly to position desired. A roller rest is provided which can be used to give two different elevations of the roller. The roller rest is intended to elevate the bed knife and tip it forward so that the lapping compound continues to flow back into the cutting edges after being wiped off by the reel blades. Two pints of our exclusive Simplex Ready-Mixed Lapping Compound are included also, one pint of W-300 Medium Grade and one pint of W-350 Fine Grade. The driving coupler is supplied with three sizes of bushings for different reel shaft diameters along with two hex sockets and a socket driver. The socket driver will also accommodate standard tool box hex sockets which can be used for the special cases. The Simplex Lapping Machine and its accessories make up a complete portable lawnmower shop ready to go anywhere for on-the-spot servicing.

Figure 4 shows a Roseman Fairway Mower being lapped in with the Simplex. On a mower such as this a cover plate is removed exposing the end of the reel

shaft. This shaft is drilled and tapped to accommodate a special hex driver which is supplied by the manufacturer. The Simplex is coupled to this driver by means of a hex socket and the socket driver supplied.

The Model 150 Simplex Portable Lapping Machine is essential equipment for every Golf Course, Cemetery, Park, and commercial grinding shop. It provides portable power for dozens of jobs in addition to its prime function of keeping reel-type mowers in top notch cutting condition. It is quickly connected to any mower and gives fast results. The Simplex is a product of The Fate-Root-Heath Company, manufacturers of Ideal and Peerless Lawnmower Sharpeners, with over fifty years experience in the manufacture of lawnmower maintenance equipment and machinery.

SPECIFICATIONS

The Model 150 Simplex Portable Lapping Machine comes complete with motor, reversing switch, 3 sizes of bushings, 2 hex sockets, socket driver, coupler, roller rest, 2 adjustable jacks, and 2 cans of Simplex Lapping Compound. Motor is $\frac{1}{4}$ H.P., resilient-mounted, sleeve bearing, 115 volt, 60 cycle, single phase, and turns 1725 R.P.M. Drive shaft speed is 145 R.P.M. Dimensions: 16 $\frac{1}{2}$ " long, 13" wide, 9" high. (In most compact form) Shipping Weight: 45 lbs.

The **SIMPLEX** *Reconditioner*

**With Electric Motor for Reconditioning
All Types of Mowers**

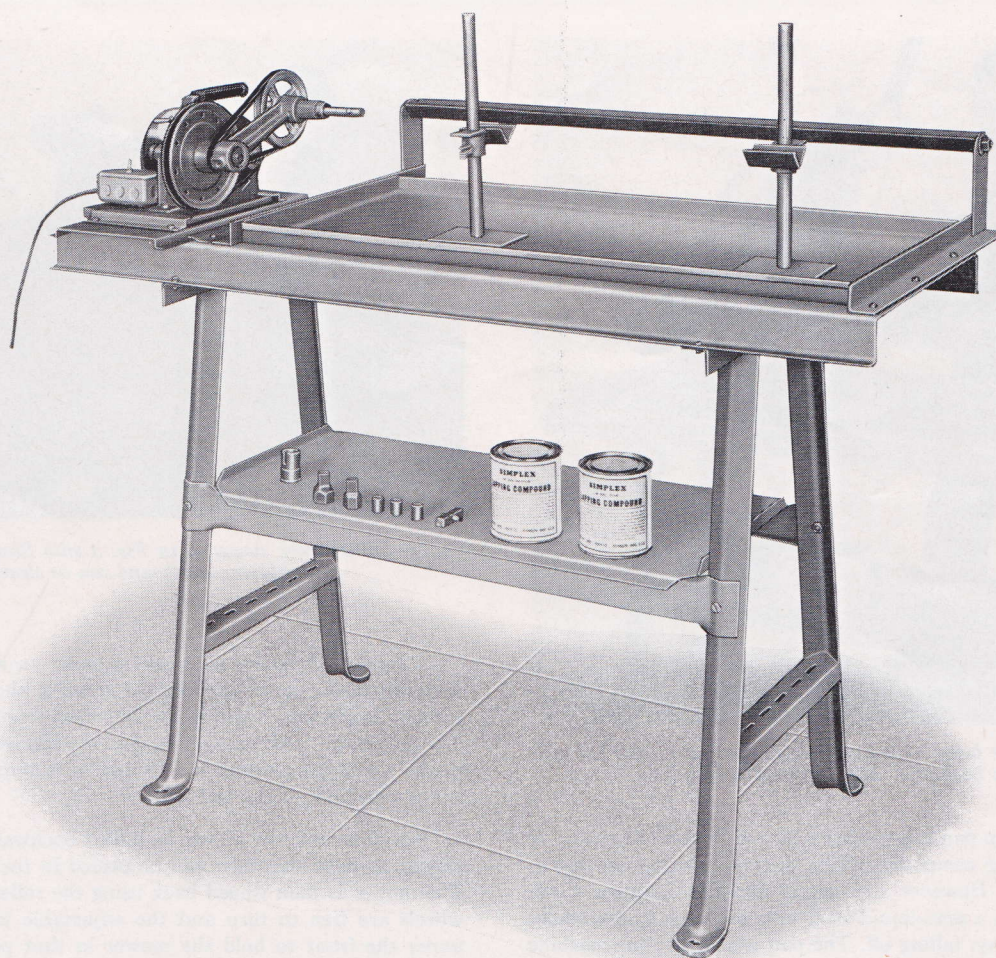


Fig. 1. The Model 500D Simplex Reconditioner with the Model 150 Simplex Lapping Head and all accessories is shown above mounted on the Ideal Floor Stand for bench height operation.

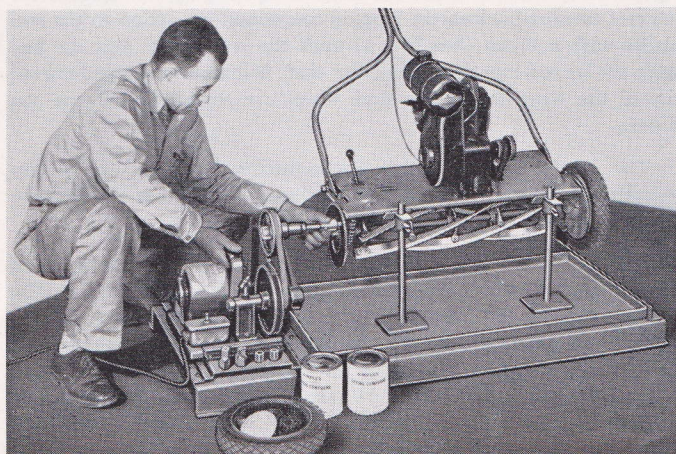


Fig. 2. The Simplex Reconditioner as used on the floor. Note how easy it is to connect the drive shaft coupler to the reel shaft.

The Model 500D Simplex Reconditioner reconditions or "laps-in" with emery compound all types and makes of hand, power, putting green and fairway mowers. The Simplex uses the Model 150 Simplex Portable Lapping Machine to power the reel and the driving shaft is adjustable in all three dimensions for easy coupling. A $\frac{1}{4}$ H.P. motor provides the power which is reduced through V-belts and pulleys to a drive shaft speed of 145 R.P.M. The lapping head and motor are a complete, self contained unit which can be removed for use elsewhere if desired. (See descriptive matter on The Simplex Lapping Machine.)

With the Simplex the mower is placed in any convenient position and left there. The lapping head can be moved at right angles to the reel shaft on the main base. The motor unit itself can be moved toward or away from the reel shaft on a secondary sliding base and the drive shaft itself can be rotated up or down 16" so that coupling to the reel shaft can be made quickly and easily without moving the mower.

The **SIMPLEX** Reconditioner

**Fastest, Easiest Lawnmower Lapping
Machine Ever Built, Uses No Gears**

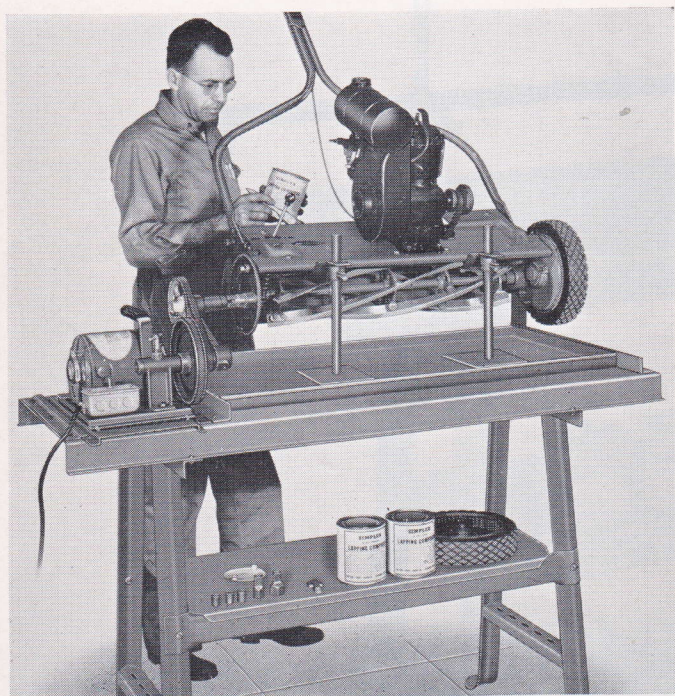


Fig. 3. Power mower being reconditioned, compound is applied with brush from back side. Note large metal drip pan.

A large metal drip pan is provided with the Simplex (See Fig. 3) to catch any lapping compound which may fall during the reconditioning operation. However the special Simplex Lapping Compound provided is in a semi-liquid state and will stick to the blades with very little, if any, falling off. The pan will keep your machine and floor clean and will prove useful for other purposes such as cleaning mowers.

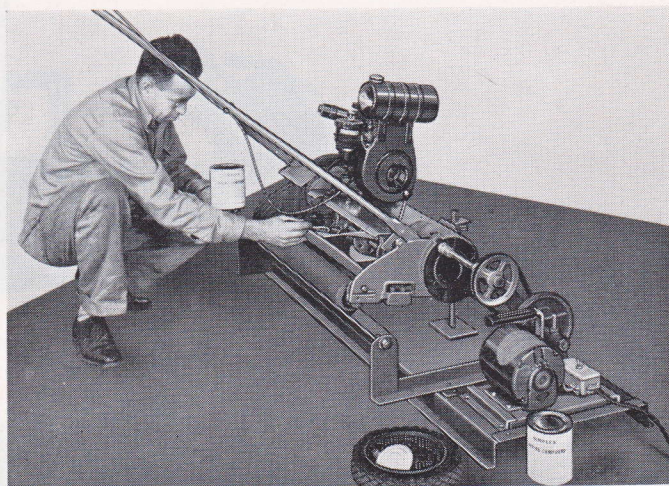


Fig. 4. Same power mower is in Fig. 3 with Simplex on floor. Method of applying compound can be clearly seen.

A steel angle serves as a roller support for mowers of any width. Two adjustable jacks support the front of the mower at any convenient height which will leave the wheel free to turn. (See Fig. 3). The adjustable jacks are set so that the mower tips forward as this causes the lapping-compound to flow back into the reel blades after being wiped off on the bed knife.

For floor use, the mower is pulled backwards into the pan and tipped up until the roller can be placed in the roller support angle. The mower is then tipped back using the roller as a pivot until the wheels are free to turn and the adjustable jacks are then placed under the front to hold the mower in that position. Once placed, the mower will not have to be moved again until the reconditioning is finished, the driving head itself is moved to connect with the mower. The right hand wheel and pinion are removed and the driving shaft is connected to the reel shaft using the proper coupler. With the reel turning backwards, lapping compound is applied to the reel blades with a brush (See Fig. 4) until the reel blades and the bed knife are lapped together. The drive shaft is disconnected and moved out of the way, the pinion and wheel are replaced, and the job is done.

The Model 500D Simplex Reconditioner has been completely redesigned. It is the ideal machine for those who want an inexpensive separate lapping machine.

SPECIFICATIONS: The Simplex Reconditioner is constructed of heavy gauge steel and is available with or without floor stand. The motor is a $\frac{1}{4}$ H.P., resilient-mounted, sleeve bearing type, 60 cycle single phase, 115 volts. Motor shaft speed is 1725 R.P.M. Length overall 54 inches, width 25 inches. Height less floor stand is 16 inches, with floor stand 48 inches. Shipping weight complete with floor stand 160 lbs., without floor stand 120 lbs. Includes two adjustable jacks, five sizes of driving couplers, socket driver, and two cans of Simplex Lapping Compound.

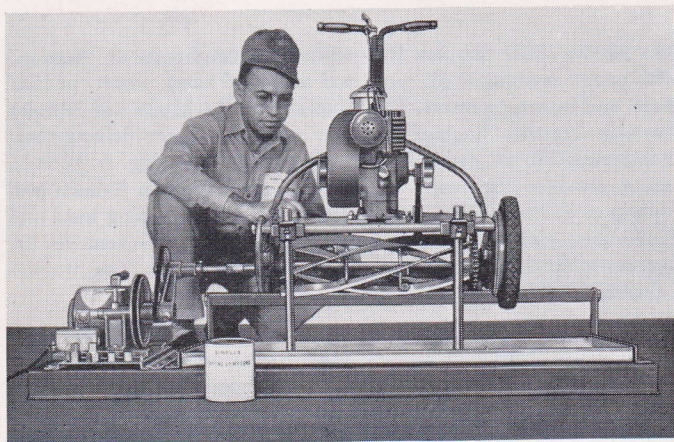


Fig. 5. Front view of power mower in Simplex clearly showing method of support and how the drive shaft is coupled to the reel shaft.

The **PEERLESS** *Knife Sharpener*

**The Model 45 Peerless Knife
Sharpener For Precision Grinding All Cutlery**

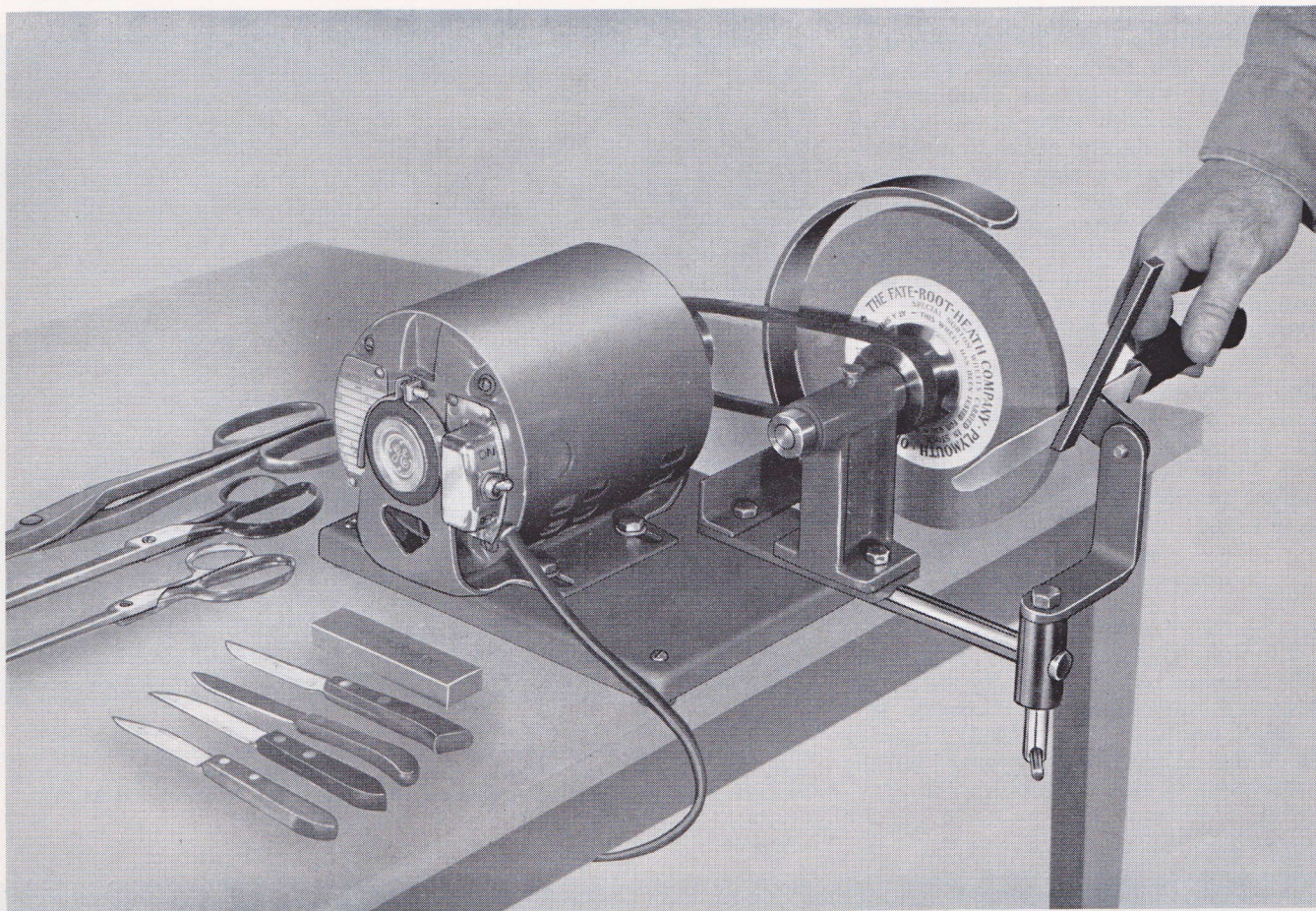


Figure 1. The Model 45 Peerless Knife Sharpener Grinding Common Household Knife.

A Sturdy, Precision Shop Machine For Grinding All Types Of Knives, Shears, Cleavers, Tools Etc.

Every household today has from six to ten knives without which daily living would be next to impossible. Wherever food is served sharp knives are essential and a machine for accurately resharpening them is just as essential. Cutlery manufacturers use costly automatic grinding machines to hollow-grind new knives. From that point on the knives are usually at the mercy of gadgets, called knife sharpeners, which homeowners try to use but eventually discard. Free hand knife grinding is practically a lost art today and the demand has become so great for a sturdy, practical machine to grind knives that we have developed the Model 45 Peerless Knife Sharpener.

The Peerless Knife Sharpener is the acme of simplicity and yet it is rugged, accurate, and meets the standards of precision that we have maintained in all of our machinery. The Peerless takes all the free-hand skill out of cutlery knife grinding. Anyone can do a perfect job

of hollow-grinding cutlery knives, scissors, cleavers, and other utensils. The grinding wheel used has been made especially for grinding stainless and vanadium steel.

The degree of bevel to be hollow-ground is determined by pre-setting the guide. Once this guide is set, exactly the same amount of bevel can be ground on each knife as long as the knife is held flat against the guide while being drawn past the grinding wheel. The guide is adjustable for any degree of bevel and can also be turned to provide suitable surfaces for scissors grinding or tool grinding.

The Model 45 Peerless Knife Sharpener is mounted on a heavy gauge sheet steel base. All adjustments lock firmly either with a wrench or a "T" handle. A $\frac{1}{4}$ H.P. motor powers the grinding wheel. A honing stone is included with the machine.

The **PEERLESS** *Knife Sharpener*

"Hollow" Grinds All Kinds Of Irregular Cutting Edges, Using Special Grinding Wheels

Cutlery knives are quickly sharpened by drawing them past the grinding wheel once or twice from each side as illustrated in Figures 1 and 2. Both sides of the cutting edge are ground exactly alike. Scissors are sharpened by reversing the guide as shown in Figure 3. Both blades of the scissors are ground by drawing them past the grinding wheel from the same side. Figure 4 shows the guide in another position serving as a flat rest for other types of grinding. In this illustration, a center punch is being touched up.

The Model 45 Peerless Knife Sharpener will enable you to make money the year around. Household knife sharpening is not seasonal. Your customers will appreciate this added service and you can guarantee results like new.

SPECIFICATIONS:

Motor: $\frac{1}{4}$ H.P. resilient-mounted, sleeve-type, 115 Volt, 60 Cycle, Single-phase, 1725 R.P.M. Grinding wheel specially made for stainless and vanadium steel. Length 16", width $10\frac{1}{2}$ ", height 11" (assembled). Shipping weight 30 lbs. (Parcel post shipment will be least expensive for this machine).

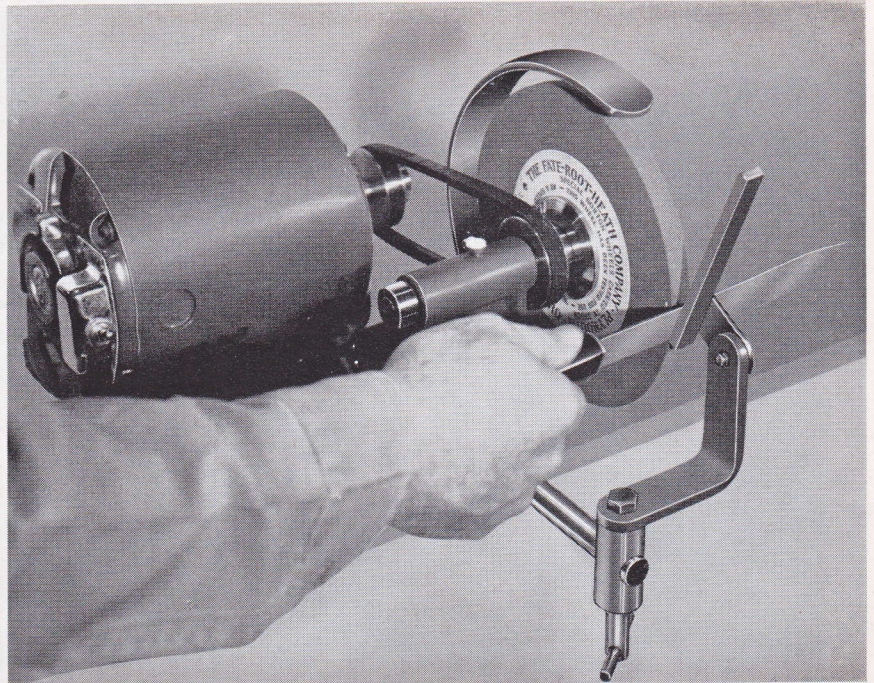


Figure 2. This shows the method of grinding cutlery knives and other types of knives. Each knife is drawn past the grinding wheel from either side as many times as needed to remove nicks and produce a new, hollow-ground edge. The grinding wheel revolves upward past the guide so there is no danger of pinching the knife between the wheel and the guide.

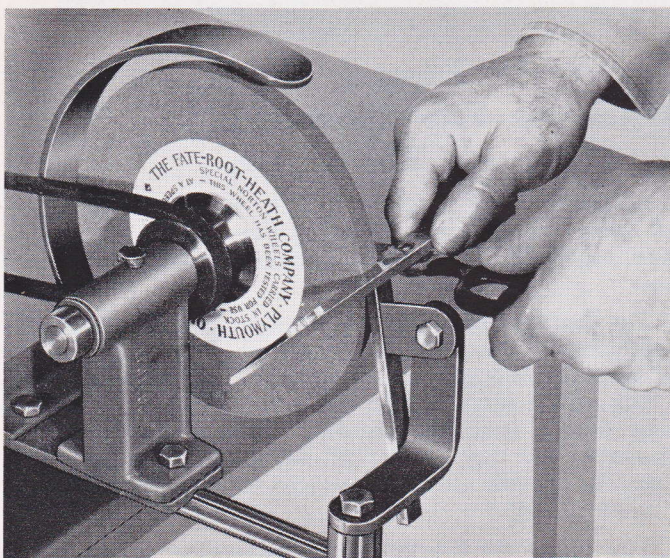


Figure 3. Scissors and shears are ground in this manner. Note how the guide is reversed for this operation. One pass on each blade is usually sufficient.

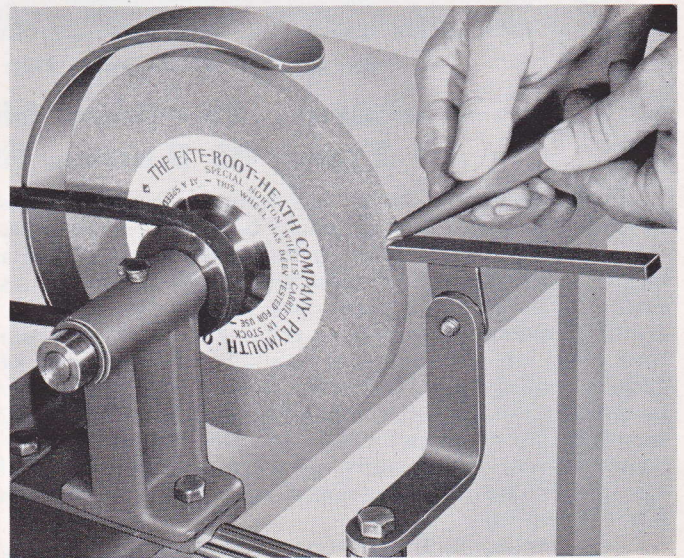
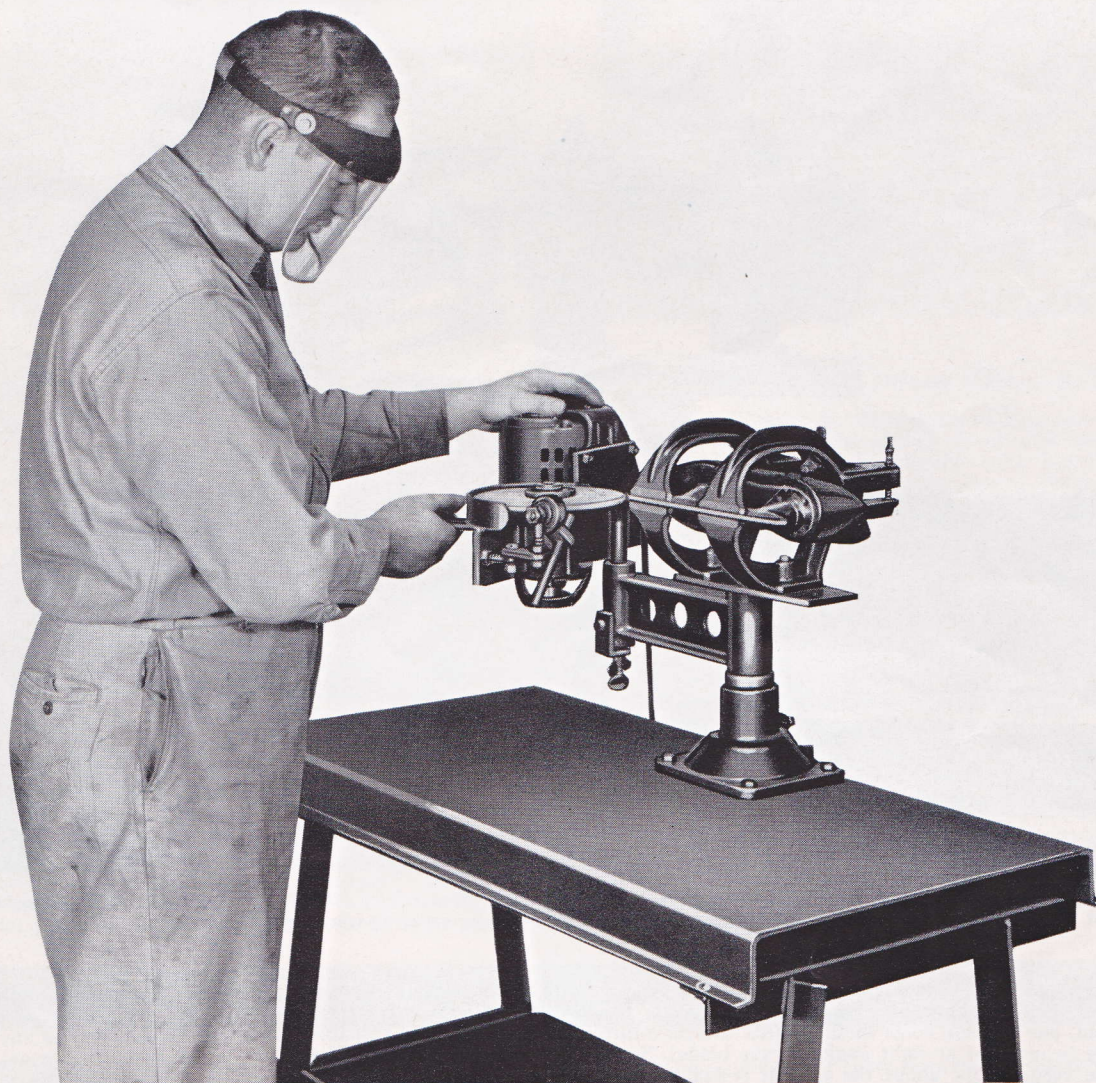


Figure 4. Punches, drills, and other tools can be sharpened by setting the guide in this position. The special wheel works very well on tool steel.

The **PEERLESS** *Skate Sharpener*

Introducing The Model 200 Ice Skate Sharpener
A Shop Machine for Hollow-Grinding Ice Skates



The Model 200 Peerless Skate Sharpener is a fast, precision ice skate sharpener which grinds parallel to the skate runner. Motor and grinding head pivot to follow runner contour.

The Peerless Skate Sharpener has been designed to permit anyone to hollow-grind all types of ice skates. The skate blade itself is clamped between the machined jaws of the extra large skate clamps thus assuring perfect alignment with the grinding wheel. The operator dresses the radius of hollow-grind desired on the face of the grinding wheel using the special diamond dresser and holder which is attached to the grinding head. With the wheel dressed, the operator then grinds the skate by moving the grinding wheel along the runner with smooth, even pressure. The motor and grinding head move as a unit on double pivot points. From one to three passes are usually sufficient to produce new, hollow-ground edges. Since the grinding marks parallel the runner, no wire edges are left to be honed off and no breaking-in is necessary on the part of the skater to smooth up the runners.

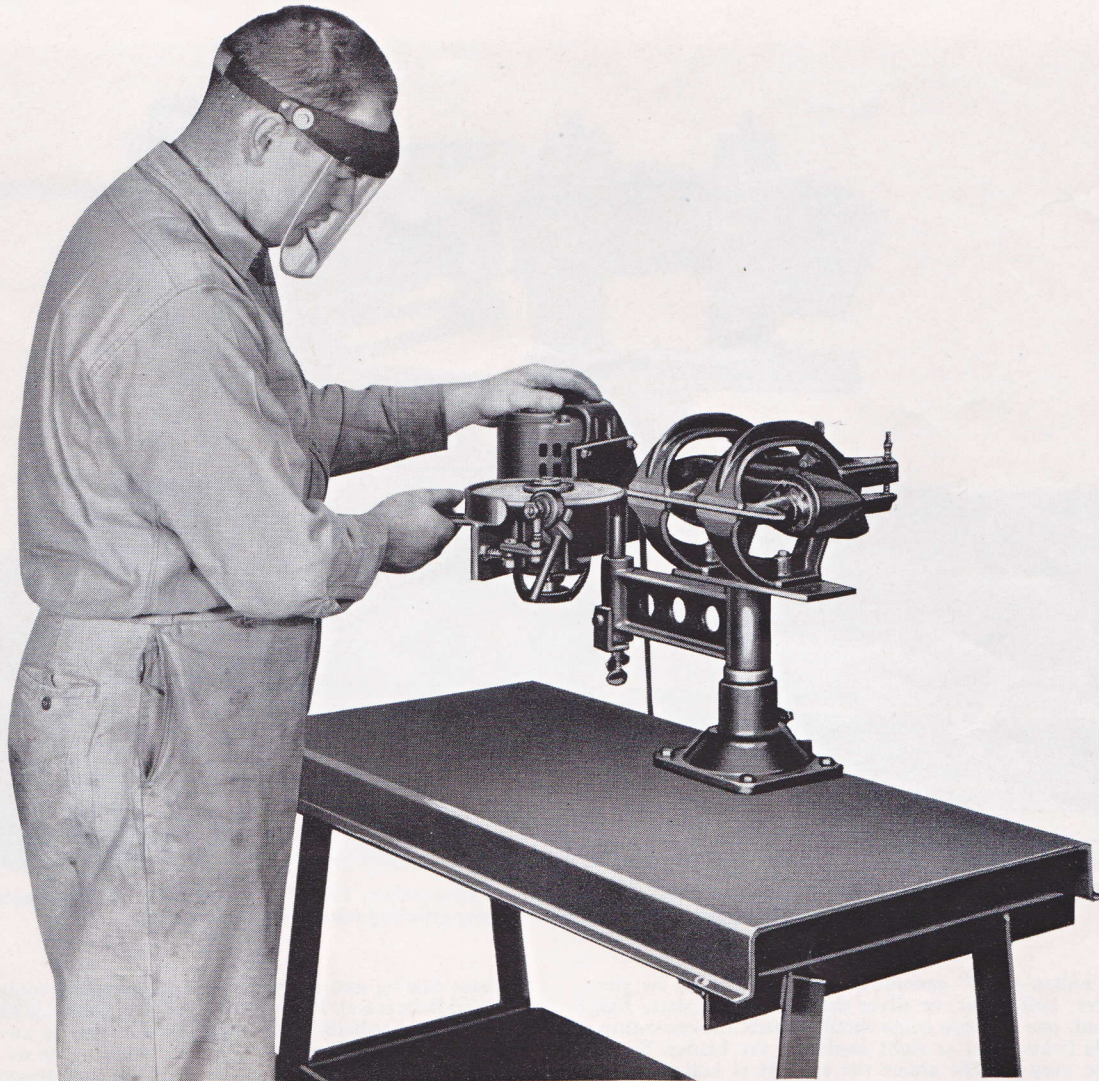
The Peerless Skate Sharpener is a precision machine manufactured to the same high standards of engineering and construction found

in the Peerless Mower Sharpener. Close tolerances are held on both pivot points and the main pivot turns on a ball bearing visible just above the base casting. This provides precise and almost frictionless movement of the grinding wheel along the exact centerline and contour of the skate blade. A thumbscrew and wing nut adjustment (visible under the secondary or motor pivot) provides a fine up-and-down adjustment for centering the grinding wheel with skate runners of various widths. The skate clamps lock securely on the skate runner blade by means of thumbscrews at the back.

The special ice skate grinding wheel is powered by a $\frac{1}{4}$ H.P. resilient-mounted motor of 115 volt, 60 cycle, single-phase current characteristics and turning 1725 R.P.M. The motor and grinding wheel move as a unit along the skate runner revolving freely around two pivot points. V-belt adjustment is provided by the motor mounting.

The **PEERLESS** *Skate Sharpener*

Introducing The Model 200 Ice Skate Sharpener
A Shop Machine for Hollow-Grinding Ice Skates



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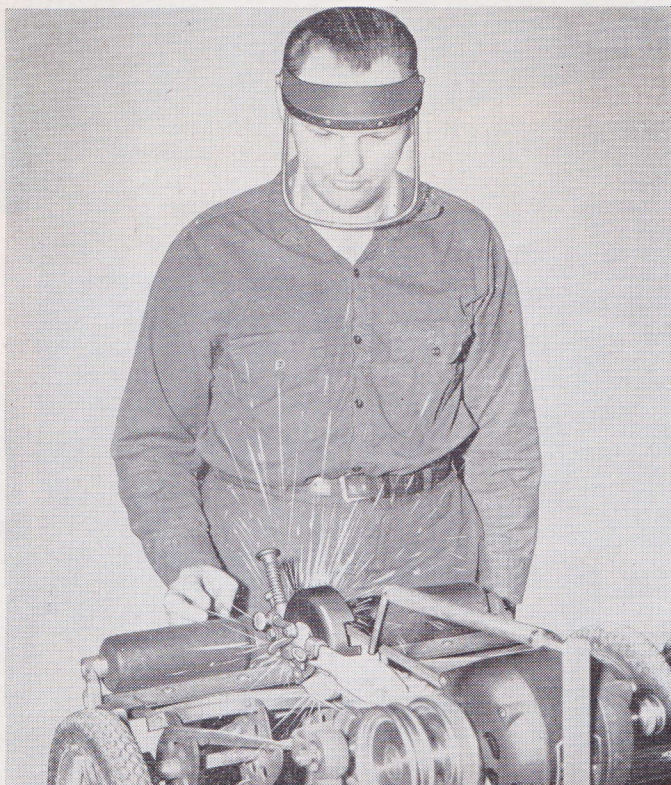
The Peerless Skate Sharpener has been designed to permit anyone to hollow-grind all types of ice skates. The skate blade itself is clamped between the machined jaws of the extra large skate clamps thus assuring perfect alignment with the grinding wheel. The operator dresses the radius of hollow-grind desired on the face of the grinding wheel using the special diamond dresser and holder which is attached to the grinding head. With the wheel dressed, the operator then grinds the skate by moving the grinding wheel along the runner with smooth, even pressure. The motor and grinding head move as a unit on double pivot points. From one to three passes are usually sufficient to produce new, hollow-ground edges. Since the grinding marks parallel the runner, no wire edges are left to be honed off and no breaking-in is necessary on the part of the skater to smooth up the runners.

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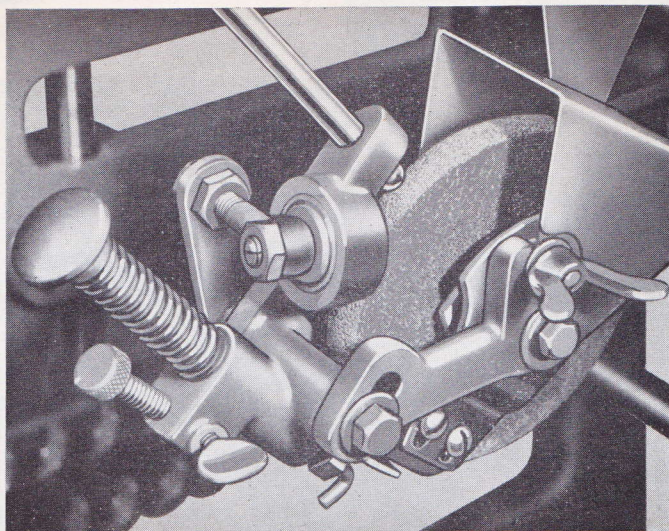
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THE IDEAL FACE SHIELD



You need take no chances with your eyesight while grinding lawnmowers if you are wearing an Ideal Face Shield. If you wear glasses, you can protect them from being pitted or broken with this Face Shield. Large 6 x 9 inch clear plastic window covers your full face when down, will not interfere with eyeglasses, and tilts up out of the way when you are not grinding. Leather head-band adjusts to any headsize. The window is easily replaced, snaps on to the headband. Your cheapest insurance for any kind of grinding or other work where eye protection is needed.

DIAMOND GRINDING WHEEL DRESSER AND HOLDER



W-185—Diamond Dresser Holder—Radius Type

This diamond dresser holder is designed to use the W-180 Diamond Dresser in dressing the traveling, grinding wheel on the Ideal or Peerless Sharpener. It fastens firmly to the J-16 Spreader Bolt and is adjustable to any position on the face of the grinding wheel. The dresser rotates on a sealed ball bearing, dressing the face of the wheel to a true radius. This crowns the face of the wheel and results in better grinding characteristics. The wheel can be crowned high at either side, if desired. There is no chance of grinding the diamond out of the holder, since it is held tangent to the wheel at all points.

W-185 Diamond dresser holder complete with W-180

Diamond Dresser

#560 Ideal Face Shield complete

#561 Replacement Window for face shield

LAWNMOWER REPAIR PARTS AVAILABLE

We operate a Mower Parts Division in conjunction with our Lawnmower Sharpener Division and are prepared to serve you direct with repair parts for most popular makes of mowers. We have in stock pinions, pawls, bed knife steel, bearings, rollers, handles and other items that you may need from time to time to repair mowers

that are brought to you for sharpening. You can order these parts as you need them or you can carry a stock of them if you wish. Repairing and overhauling mowers will be a profitable addition to your sharpening business. An illustrated catalog is sent with each Ideal Sharpener and is available on request to Ideal and Peerless users.

AN ATTRACTIVE SIGN FOR YOUR BUSINESS



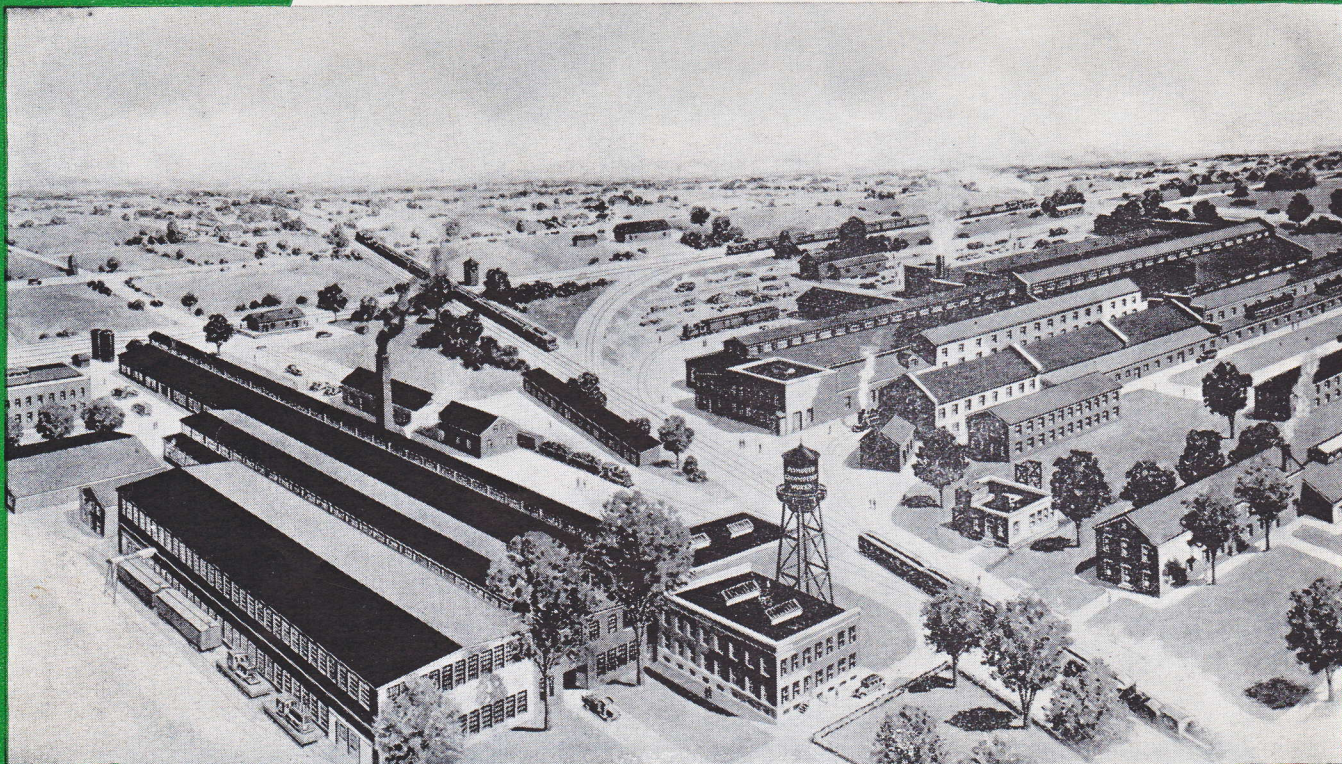
Illustrated above is sign No. 1. Wind cannot harm this sign and it will last you a lifetime.

The finishing touch for your lawnmower sharpening business is a neat, attractive sign to denote your place of business. We are offering the sign pictured at left in two choices.

SIGN NO. 1—This sign is lettered as illustrated on both sides for suspension on a bracket. Baked enamel is used on 20 gauge steel and the top side is rolled around so that the sign can be hung on a bracket made of $\frac{1}{2}$ " steel. We do not supply the bracket as it can be easily made. This sign measures 24" x 22" and is in three colors. Space is provided for you to have your name lettered in at the bottom.

SIGN NO. 2—This sign is lettered on one side only for tacking to the side of a building or fence. It is just like the illustration except that it has no rolled edge and it is on 32 gauge steel. Dimensions are 22" x 18".

Both signs are finished in three colors, black and white letters on a red background. Please do not request that we have your name lettered on the sign. We have the signs only, already boxed for shipment, and we offer them at the lowest possible cost.



PLANT AND GENERAL OFFICES OF
THE FATE-ROOT-HEATH COMPANY, PLYMOUTH, OHIO
PRODUCTS: IDEAL AND PEERLESS
LAWNMOWER SHARPENERS, PLYMOUTH KNIFE GRINDERS,
PLYMOUTH LOCOMOTIVES, AND
F-R-H BRICK AND TILE MACHINERY

Guarantee

We, The Fate-Root-Heath Company, fully guarantee the Ideal and Peerless Lawnmower Sharpeners, Simplex Reconditioner, Ideal Bench Grinders, Accessories and Equipment to be honestly constructed of only high grade materials by skilled mechanics. If, within one year from date of purchase, any part or parts should prove defective, we will replace them free of charge.

THE FATE-ROOT-HEATH CO.

John A. Root

President

THE FATE-ROOT-HEATH COMPANY, PLYMOUTH, OHIO, U. S. A.

IDEAL and PEERLESS *Lawnmower Sharpeners*

Name _____ Date _____ 195_____

Street Address _____ Ship via _____

Postoffice _____ State _____ SPECIFY HOW YOU WANT
US TO SHIP YOUR ORDER

Shipping Point _____ Route _____

(IF DIFFERENT, SEE BACK SIDE)

SHIP THE FOLLOWING EQUIPMENT SUBJECT TO GUARANTEE WHICH IS STATED ON REVERSE SIDE.

CATALOG PAGE	ORDER NO.	QUAN.	DESCRIPTION	SHIPPING WEIGHT	PRICE EACH	AMOUNT
2	#300		IDEAL LAWNMOWER SHARPENER, Complete	400 lbs.	\$279.50	
2	#301		IDEAL LAWNMOWER SHARPENER, less Bed Knife Grinder	400 lbs.	\$262.00	
2	#302		IDEAL LAWNMOWER SHARPENER, less Reconditioner	400 lbs.	\$268.00	
2	#303		IDEAL LAWNMOWER SHARPENER, less both Bed Knife Grinder and Reconditioner	400 lbs.	\$250.00	
12	#600		PEERLESS MOWER SHARPENER, Complete	700 lbs.	\$465.00	
12	#601		PEERLESS MOWER SHARPENER, less Bed Knife Grinder	700 lbs.	\$450.00	
12	#602		PEERLESS MOWER SHARPENER, less Reconditioner	700 lbs.	\$452.50	
12	#603		PEERLESS MOWER SHARPENER, less both Bed Knife Grinder and Reconditioner	700 lbs.	\$437.50	
15	#50		IDEAL BED KNIFE GRINDER, Complete on floor stand	250 lbs.	\$189.50	
15	#50S		ICE SKATE GRINDING ATTACHMENT for the Model 50 Ideal Bed Knife Grinder	50 lbs.	\$ 34.50	
16	#77		IDEAL BENCH GRINDER, Complete with motor	60 lbs.	\$ 62.50	
16	#77C		CONVERSION KIT — Motor, Base and Belt Guard	40 lbs.	\$ 26.50	
20	#150		SIMPLEX (Portable) LAPPING MACHINE, Complete	45 lbs.	\$ 69.95	
22	#500D		SIMPLEX RECONDITIONER, Complete on floor stand	155 lbs.	\$125.00	
22	#500D		SIMPLEX RECONDITIONER, Complete less floor stand	110 lbs.	\$115.00	
24	#45		PEERLESS KNIFE SHARPENER, Complete with motor	30 lbs.	\$ 47.50	
26	#200		PEERLESS ICE SKATE SHARPENER, Complete with Floor Stand, base, and base casting	145 lbs.	\$114.50	
26	#201		PEERLESS ICE SKATE SHARPENER, less floor stand only	100 lbs.	\$ 99.95	
26	#202		PEERLESS ICE SKATE SHARPENER, less floor stand and metal base, for mounting on bench	65 lbs.	\$ 89.95	
26	#203		PEERLESS ICE SKATE SHARPENER, less floor stand, metal base and base casting, for Model 50 owners	60 lbs.	\$ 84.95	
27	#560		IDEAL FACE SHIELD, Complete with window	1 lb.	\$ 3.95	
27	#561		REPLACEMENT WINDOW for the Ideal Face Shield	8 oz.	\$.95	
27	W-185		DIAMOND DRESSER and holder for Ideal or Peerless	3 lbs.	\$ 7.50	
27	#1		SIGN, as illustrated, no bracket furnished	8 lbs.	\$ 7.50	
27	#2		SIGN, as illustrated	5 lbs.	\$ 4.00	

TERMS—Cash in full with order or 20% of total amount with order, balance C. O. D.
Full remittance with order will save 2% plus C. O. D. charges. (See back side.)

DISCOUNT—Deduct 2% for cash in full with order.

OHIO CUSTOMERS—Add 3% to total amount for Ohio Sales Tax. If you intend to
resell, send Sales Tax Exemption Certificate with your order.

**ALL PRICES ARE F. O. B. PLYMOUTH, OHIO AND
SUBJECT TO CHANGE WITHOUT NOTICE**

TOTAL	- - - - -	\$	_____
Less 2% for Cash	- - - - -	\$	_____
Net Amount	- - - - -	\$	_____
Ohio Customers Only, Add 3% Sales Tax	- - - - -	\$	_____
TOTAL	- - - - -	\$	_____
Remittance	- - - - -	\$	_____
Balance C. O. D.	- - - - -	\$	_____

FREIGHT RATES: Approximate freight charges per 100 lbs. (Per Cwt.) from Plymouth, Ohio are listed below. These have been calculated from Leonard's Guide and require an addition of 15% to the total amount of each freight shipment. The final charge is then subject to a 3% Federal Tax. These charges are not the same to all points within each state and there may be additional changes in the rates, however this table will enable you to estimate the shipping charges. Express charges run considerably more than freight and can be obtained exactly from your express agent. Express shipments will not be made unless you indicate Express on your order. All shipments are Free on Board (F. O. B.) Plymouth, Ohio. Please specify Motor Express or Railway Express.

State	Rate per 100 lbs.	State	Rate per 100 lbs.	State	Rate per 100 lbs.	State	Rate per 100 lbs.
Alabama	2.59	Iowa	2.41	Nebraska	2.73	Rhode Island	2.82
Arizona	5.52	Kansas	2.68	Nevada	7.59	S. Carolina	2.73
Arkansas	2.64	Kentucky	2.04	New Hampshire	2.83	S. Dakota	3.52
California	8.55	Louisiana	3.10	New Jersey	2.45	Tennessee	2.36
Colorado	2.75	Maine	3.19	New Mexico	4.16	Texas	3.47
Connecticut	2.68	Maryland	2.09	New York	2.87	Utah	6.19
Delaware, D.C.	2.31	Massachusetts	2.82	North Carolina	2.31	Vermont	2.78
Florida	3.23	Michigan	1.50	North Dakota	3.42	Virginia	2.27
Georgia	2.36	Minnesota	2.59	Ohio	1.32	Washington	8.55
Idaho	6.61	Mississippi	2.82	Oklahoma	3.15	W. Virginia	1.32
Illinois	1.86	Missouri	2.59	Oregon	8.55	Wisconsin	2.00
Indiana	1.32	Montana	6.31	Pennsylvania	2.27	Wyoming	3.65

WHAT TO DO WHEN YOUR SHIPMENT ARRIVES: Inspect your shipment immediately upon arrival. If you find anything lost or damaged, report such loss or damage to your freight or express agent so that claim may be filed to recover the cost of loss or damage. Notify us immediately for replacement of parts, cost of which will be reimbursed to you by the freight or express company. We cannot be responsible for loss, damage, or delay beyond our control.

BALANCE C.O.D.: Collection on Delivery (C.O.D.) shipments are sent freight or express collect for the balance due plus the shipping charges which you can estimate from the table above. You pay your freight or express agent the balance due us plus the amount due them. If you send remittance to us in full with your order, you will pay only the the shipping charges upon arrival of your machine and save the C.O.D. fees.

EXPORT: We have an export price list applicable to all countries except Canada. Export terms are stated thereon. This price list applies only in the United States, its possessions and Canada.

CANADIAN CUSTOMERS: Special motors are sometimes required in Canada and are not always available for factory installation. Check the electrical characteristics in your location and advise us when you order. If we can obtain a suitable motor, we will ship your machine complete. Otherwise we will have to ship less the motor and it will be necessary for you to obtain a suitable motor and install it on the machine.

SHIPPING POINT AND ROUTE: If you do not have a freight or express station where you live, determine the nearest freight or express station or truck line serving you. Fill in address of this freight or express station and under ROUTE, the name of the railroad or truck line which delivers to you.

OHIO CUSTOMERS: Machines you order for your own use are subject to 3% Ohio Sales Tax whether you have a vendor's license or not. If you have a vendor's license and are ordering for resale to someone else, send a Sales Tax exemption certificate with each order. Otherwise we must add 3% Sales Tax to all Ohio orders.

GUARANTEE

We, THE FATE-ROOT-HEATH COMPANY, fully guarantee the Ideal and Peerless Lawnmower Sharpeners, Simplex Reconditioner and Lapping Machine, Ideal Bed Knife Grinders, Peerless Knife Sharpener, Accessories and Equipment to be honestly constructed of high grade materials by skilled mechanics. If, within one year from date of purchase, any part should prove defective because of material or workmanship, we will replace that part free of charge.

THE FATE-ROOT-HEATH CO.
LAWNMOWER SHARPENER DIVISION
PLYMOUTH, OHIO

THE FATE-ROOT-HEATH COMPANY

PLYMOUTH GASOLINE AND DIESEL LOCOMOTIVES
F-R-H CERAMIC MACHINERY
SILVER KING TRACTORS
LAWN MOWER GRINDERS

TELEPHONE 64

PLYMOUTH, OHIO, U. S. A.

Dear Friend:

Thank you for your inquiry just received. We are pleased to enclose our latest catalog illustrating our complete line of lawnmower sharpening and servicing machinery, equipment, and accessories.

We have been manufacturing the Ideal Lawnmower Sharpener since 1902 and satisfied customers all over the world have written us letters praising their machines. Over our first half century we have built up a reputation for quality, precision workmanship, and simplicity of operation that is second to none. This reputation backs every machine that we build.

We now have the new Model 600 Peerless Mower Sharpener, a premium quality, heavy duty machine. We have built two mower sharpeners, the Ideal and the Peerless, since 1916. The Peerless is designed primarily for large golf course and other heavy-duty mowers. The Ideal is designed for the individual or small shop catering to the home-type mowers. However to accomodate the recent trend to larger power mowers for home use, we have enlarged the capacity of the Ideal so that it is now capable of grinding all sizes of mowers, the same capacity offered by the Peerless.

The Peerless Mower Sharpener offers two methods or principles of grinding; the "hook" method and the "straight line" method. The Ideal Sharpener features the "hook" method only. Any reel type mower can be ground by the hook method, however the straight line method permits a reel to be ground while completely removed from the mower or the reel can be ground in the mower with the bed knife removed. These methods are sometimes preferable on large, heavy-duty mowers. A full explanation of these grinding methods will be found in the catalog.

The Peerless is heavier, has more power, and is best suited for large service shops using more than one operator and servicing heavy-duty mowers. The Ideal is better suited for the individual or small shop where most of the business consists of home type mowers up to 24 or 26 inches in cutting width. And the Model 300 Ideal user can still grind the occasional big mower that comes in without difficulty. Both sharpeners have bed knife grinding attachments, however if a separate bed knife grinder is needed, the Model 50 Ideal Bed Knife Grinder will prove a profitable companion to either the Ideal or the Peerless.

Please note the other machines we make which can add to your profits and speed up your work as your business grows. Check the advertising helps, signs, lawnmower repair parts and other items we have available. Compare price, quality, and performance of our machines with any other make. And don't delay, order now for early delivery and get started in the profitable lawnmower servicing business.

Very truly yours
THE FATE-ROOT-HEATH COMPANY

Paul H. Root

Paul H. Root, Manager
Lawnmower Sharpener Division

PHR/gt

Invert To Sharpen...

The IDEAL Way

FACTS, Not Fiction, ON THE BIG QUESTION

This is the question frequently asked and more frequently distorted. Why turn a power mower upside down to sharpen it? Will the engine be harmed? Will the sharpening results justify the method used?

1. We have tried sharpening mowers in every conceivable position and have found the inverted position to be the best for our method of "hook" grinding where the reel is ground to exactly fit the bed knife. The mower can be mounted solidly in this position, you work in a comfortable position, and you can see what you are doing. The mower, no matter how heavy, rests completely in the machine and rugged, screw-type adjustments make adjusting easy yet firm, there can be no slips, during grinding.
2. Will the engine be harmed? Absolutely not. We recommend that the oil be drained, the air cleaner removed and the gas tank safeguarded. In many cases the complete engine can be removed quickly and easily. Charge extra for an oil change. Any customer who is fussy about the brand of oil you put in will certainly insist on a hook grinding job. The extra time needed to safeguard the engine will be more than made up by the perfect grinding job and easy adjustment that result from the "hook" grinding method.
3. The answer to the third question is obvious. Over 30,000 Ideal and Peerless Lawnmower Sharpeners have proven the "hook" method. Since 1902 we have pioneered the field of lawnmower servicing equipment. What more can be said.

New mowers are manufactured by straight line grinding and lapping-in. This is necessary for high production and this is why we claim that we can improve the cutting qualities of even a brand new mower by sharpening it properly on the Ideal. While blades can be ground to a straight line, they just do not stay straight under pressure, they become **concave** or **convex**. That is why only the "hook" method gives perfect cutting contact. Don't ever try to get by with only straight line grinding unless you have a lapping-in attachment or separate machine to lap the reel and bed knife into some kind of cutting contact.

The Ideal is **engineered** and built like a machine tool. We have our own foundry and do not have to rely on fabricated sections from our welding department. We use steel where it should be used and cast iron where it should be used. Standard parts are used wherever practical but where special parts are needed, we have engineered and made them. We are still supplying parts for our machines which were made over forty years ago.

The Ideal is the most accurate grinder made. It is fast, easy to use, and will last indefinitely. It is complete, grinds the reel, the bed knife, and includes a reconditioner. The Ideal does so much more, is built so much better, and is backed by a company with over fifty years experience in engineering and building lawnmower servicing machinery.

DON'T BUY A MACHINE THAT ONLY DOES PART OF THE JOB.

THE IDEAL DOES THE COMPLETE JOB, BEST.

THE FATE-ROOT-HEATH COMPANY

Lawnmower Sharpener Division

PLYMOUTH, OHIO